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AUTHOR Chien, Mei-I
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ABSTRACT

This study analyzed outcomes of an inclusive physical education (PE) program for Taiwanese kindergarten students designed to improve movement-related performance of all children within a diverse group and facilitate positive learning behaviors. Five children with mild disabilities, situated in a class with 14 typical peers, acted as the experimental group. The comparison group was five other children in another class with similar birth dates and no disabilities. The only difference between the inclusive class and the class with the control group of students was that the researcher taught inclusive movement in the intervention PE class once a week rather than the teacher. The intervention encouraged peer interaction. Pretesting and posttesting involved observation of the classes (which were videotaped). The researcher recorded information on the children every 60 seconds. Data analysis indicated that the inclusive PE program helped children with disabilities achieve movement-related increases as well as children without disabilities. The program was especially helpful in improving the disabled students' positive responses to challenges. (Contains 32 references.) (SM)

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THE DEVELOPMENT AND OUTCOME ANALYSIS OF AN INCLUSIVE PHYSICAL EDUCATION PROGRAM

MEI-I CHIEN

NATIONAL CHIA-YI TEACHERS COLLEGE,

CHIA-YI, TAIWAN

AUGUST, 1999

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MEI-I CHIEN

NATIONAL CHIA-YI TEACHERS COLLEGE,

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The development and outcome analysis of an inclusive physical education program

Mei-i Chien

Abstract

The purpose of this study was to analyze outcomes of an inclusive physical education (PE) program for young children. The inclusive PE program developed in this study aimed to improve movement-related performance of all children within a diverse group. In addition, the development of positive learning behaviors was emphasized. Thus, the improvement of a positive learning behavior was valued as the same importance as the movement-related performance in this program.

This inclusive movement education program was implemented in an inclusive kindergarten class. All of the five children with mild disabilities in this class were designated as the experiment group. In the same class, the other five children who were the closest in their birth date with the individual child in the experiment group were designated as the compare group. Regarding the control group, five children in the other class of the same kindergarten were designated, because of the closest of their birth date with the individual child in the experiment group, too.

Results were presented in qualitative and quantitative approaches respectively. Behavior themes of positive learning were defined as concentration, confidence, positively responding to challenge, helping peers, and appreciating peers. According to the qualitative analysis of observation logs, most children in the experiment group performed improvement on positively responding to challenge. The number of children made improvement on helping peers and appreciating peers did not exceed a half. There was none apparent evidence found about improvement on concentration and confidence.

In quantitative approach, children in the compare group made improvement on their movement-related performance as good as the control group. Categories of movement-related performance were defined as sensory-motor, language-sociality, flexibility, and strength in this study. More than a half of children in the experiment group made improvement on sensory-motor and language-sociability. Generally, the inclusive PE program developed in this study helped children in a diverse class achieving movement–related performance as good as children in a regular class. In addition, this program was especially beneficial to the behavior of positive

responding to challenge for children with mild disabilities.

Key words: kindergarten, children, inclusion, physical education.

幼兒體能融合教學實施成效分析

簡美宜

摘要

本研究之目的在分析一專為幼兒設計之體能融合教學方案之執行成效。此一方案之設計旨在提昇能力懸殊團體中幼兒之動作表現與學習行為。此一融合教學方案施行於一幼稚園的融合班中，在此班級中的五位輕度障礙幼兒為此研究中之實驗組。比較組為同一班級中與此五位幼兒出生日期最接近者，而控制組則為同園中另一班級出生日期最為接近的幼兒。

研究結果分別以質化與量化兩種觀點呈現，質化結果係根據觀察札記進行分析，而量化結果則根據一動作量表之前後測表現而決定。學習行為的內容包含專注、自信、勇於接受挑戰、幫助同儕，及讚賞同儕。實驗組兒童在勇於接受挑戰的學習行為上呈現進步。未達半數的幼兒在協助同儕及讚賞同儕的行為上呈現進步，至於專注與自信的增進則未能在觀察中取得明確的證據。動作表現的內容包含感覺動作、語言社會能力、調整力、與肌強度。比較組的幼兒與控制組的幼兒在動作表現上進步的程度相近，在實驗組中，一半以上的幼兒在感覺動作及語言社會能力上有所進步。總結以上發現，此一融合教學方案可幫助能力差異懸殊之班級在動作表現上與一般班級獲得相似的教學成效，而對輕度障礙幼兒勇於接受挑戰的學習行為，尤有明顯的助益。

關鍵詞：幼稚園、幼兒、融合教學、體能。

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CHAPTER I

INTRODUCTION

Introduction

The single commonality across definitions of inclusion is that children with and without disabilities are placed in the same setting, which is most often a classroom. Inclusion is usually confusing because of its degree of similarity to mainstreaming. Block & Vogler (1994) defined that mainstreaming suggests that little or no changes from what naturally occurs in the class will take place when children with disabilities are incorporated; while inclusion infers that curriculum and teaching method modifications are necessary for the process to be successful. Inclusion and mainstreaming may be very similar in a setting where the teacher already uses various methods to meet students' needs based on individual skills and fitness levels.

One of the most fundamental needs of every child is to be accepted and to have a sense of belonging. However, research has clearly shown us that children with disabilities are not automatically accepted by their peers unless teachers (and parents) take an active role in promoting acceptance (Favazza, 1998). Early perceptions about individuals with disabilities lay the groundwork for attitude formation. In fact, by the age of five children have already formed perceptions, either positive or negative, about youngsters with disabilities (Diamond, 1993; Favazza & Odom, 1996). Without thoughtful planning and strategies to promote acceptance, these early attitudes are often negative (Favazza & Odom. 1996, 1997).

Problem statement

In the study, the author wanted to develop an appropriate inclusive PE program which is helpful for children's improvement on movement-related performance. In addition, the improvement of children's learning behaviors during the proceeding of this program was also the interest of this study. How to monitor children's changes in movement performance and learning behaviors when interacting with surroundings was the problem needed to be solved in this study.

Purpose statement

The purpose of the study was to analyze outcomes of this inclusive physical education (PE) program developed by the author. This general purpose was elaborated as follows:

1.to develop lesson plans and a format of lesson structure for PE sessions,

2.to monitor children's changes on learning behaviors during these experiment sessions, and

3.to analyze children's improvement of movement-related performance within this experiment period.

Significance of this study

The significance of this study includes the following:

1.providing an example of the development of an inclusive PE program, and

2.contributing to the application of inclusion education in the kindergarten level.

Limitations

This study was conducted in a public teachers college affiliated kindergarten. The analysis was focused on 15 subjects. Because of the small amount of number of subjects, the explanation of this study must be very careful. Results of this study might be only applicable to limited cases. However, the purpose of this study was not to propose a generalized model for all kinds of inclusive classes to follow.

Definition of Terms

1.Inclusion: In this study, the inclusion setting is a kindergarten class with five children with mild disabilities and 14 typical peers.

2.Inclusive physical education program: In this study, the inclusive PE program was a curriculum designed with emphasizes of movement performance on sensory-motor, language-sociality, flexibility, and strength. The behavior themes incorporated in this program included concentration, confidence, positively responding to challenge, helping peers, and appreciating peers. This program was conducted once in a week a inclusive class by the author.

CHAPTER II

LITERATURE REVIEW

In the second chapter, literatures were collected on issues of inclusion practice, physical education, and inclusive physical education (PE) program.

Inclusion education

In the issue of inclusion education, effects of inclusion and principles suggested for developing inclusion programs were discussed.

Effects of inclusion

Although including children with developmental disabilities in preschool classes has become increasingly common, little is known about how experiences in an inclusive classroom affect young children's development. Okagaki, Diamond, & Kontos (1998) conducted two studies addressing the experience of inclusion for young children without disabilities. In Study 1, 36 typically developing children (mean age = 55.2 months) attending an inclusive, university-based early childhood program were interviewed about their knowledge of and attitudes toward children with disabilities. Parents' beliefs and children's attitudes toward children with disabilities were positively related to the frequency of children's actual contacts with classmates with disabilities during free playtime. In Study 2, the beliefs and behaviors of 20 children from an inclusive university-based early childhood program and 18 children from an inclusive community-based program were compared. There was no difference between the two programs in the amount of contact typically developing children had with classmates with disabilities.

Buysse, Wesley, & Keyes (1998) examined the underlying factor structure of a rating scale designed to assess perceived barriers and supports associated with early childhood inclusion. Participants were 201 administrators and direct service providers from the early intervention, early childhood, and special education fields and 287 parents (primarily mothers) of young children with disabilities (birth through 5 years) who received early intervention services. A four-factor solution

for barriers that accounted for 41% of the total variance emerged from an exploratory factor analysis. Because one of the factors was found to have low internal consistency, a three-factor solution was used in subsequent analyses. The three factors consisted of barriers associated with early childhood program quality, community resources, and coordinating and integrating services for children with disabilities and their families. Items reflecting supports for early childhood inclusion produced a single support factor. A confirmatory factor analysis revealed a barriers factor structure for parents that was consistent with that obtained for professionals. Background variables contributed to explaining ratings of barriers and supports among parents who differed with respect to race, education, employment status, and experience with inclusion, lending further support for the validity of the factor structure.

Principles of inclusion programs

Mizen and Linton (1983) proposed six steps to effective mainstreaming. First, the teacher must prepare an environment which respects and values individual differences. The second step required avoiding practices which unwittingly contribute to embarrassment and failure. The third step is building the ego strength of all children. The fourth step is providing individual assistance and keeping children active. The fifth step involves ability grouping to allow for mastery teaching. The sixth and final step requires the teacher to alter and adapt.

Moorhouse (1989) described seven activity variables, any or all of which could be manipulated in order to make a game or activity more inclusive: activity purpose, movement, organizational patterns, number of players, communication, equipment, and limitations. Whenever, an activity is not successful, or does not allow your students to be successful, you may be able to modify it through one or more of these seven avenues, rather than discarding the activity.

In order to assist the teacher in creating an educational setting that will make inclusion a smoother process, Ozmun (1994) offered the following suggestions:

A. where to get help

(A) gaining the knowledge to work with children with special needs: (a) in-service training, (b) involvement in the I.E.P. process, (c) observations of inclusion settings, (d) support system, (e) university course work in adapted physical education, (f) adapted physical education textbooks, and (g) publications.

(B) gaining the assistance to provide the individual-oriented approach necessary for inclusion: (a) teacher's aids, (b) student assistants, (c) peer teachers, (d)

volunteers, and (e) parents.

B. modifications for individualizing physical education

(A) adapting instruction: (a) giving directions, (b) the order of presenting information, (c) pupil/teacher ratios, (d) nature of the group, (e) motivation, (f) size and layout of movement space, and (g) indoors/outdoors space.

(B) adapting equipment: (a) size/shape/length, (b) texture/weight/width, (c) level /slope/amount, (d) color/ suspended/moveable or stationary, and (e) inclusion of noise device.

(C) adapting games: (a) rules/number of players, (b) time allotment/type of equipment, (c) methods of scoring/type of movement-skills included, (d) positioning/boundaries-size and shape, and (e) competitive vs. cooperative.

(D) adapting for individual differences: (a) different disabling conditions, (b) body composition, (c) age, (d) personality types (shy vs. assertive), (e) ability levels (beginners vs. advanced), (f) skill level, and (g) fitness level.

The level of accessibility of a learning environment makes differences on outcomes of an inclusion program. Peterson (1995) proposed a checklist for evaluating the level of accessibility to school buildings, grounds, curricula, technology, and extracurricular activities for students with physical (mobility) disabilities. The physical accessibility portion of the checklist includes routes, parking and loading zones, stairs, elevators, drinking fountains, bathrooms, telephones, libraries, cafeterias, and playgrounds.

Curriculum development

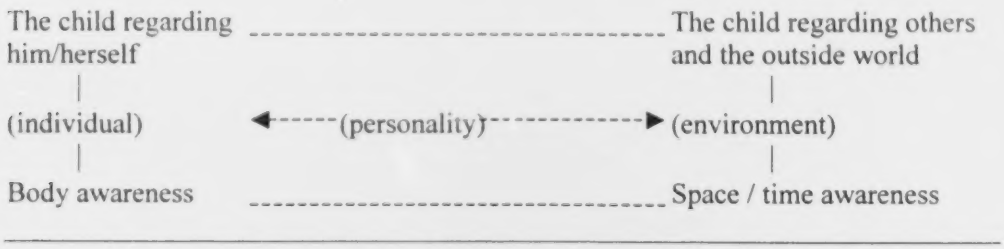
Focusing on the issue of curriculum development, the five steps of developing a curriculum were utilized to address related literatures. Gallahue (1993), a well-known American scholar in physical education, suggested that there are five basic steps to be followed in developing a curriculum in any subject matter area, be it math or science, physical education or basketball coaching. These five steps include to (1) establish a value base for the program; (2) develop a conceptual framework; (3) determine the objectives of the program; (4) design and implement the program; and (5) establish criteria for assessing the effectiveness of the program.

Value

A necessary first step in all curricular planning is to establish the value base upon which the curriculum is to be built. Odom & Diamond (1998) noted that in

inclusive classrooms, there is often an underlying philosophy of appreciation and support for diversity in which all children are valued as unique participants with their own individual needs.

Krebs (1994) proposed that a quality developmentally based physical education program has to find balance between every child's needs and all children's needs. Therefore, individuality and sociability are key concepts that help teachers outline the major value of their program. Individuality is related to internal stimuli which are dependent on the child's past experiences. Sociability regards to the child's capacity to deal with external stimuli, dependent on the environment. A paradigm was proposed to illustrate that our personality is developed from the interplay of our individual characteristics and our experiences with others (see Figure 1). This paradigm underlines body awareness as a component of our individuality, and space / time awareness as components of our physical and social environment. Using the holistic structure of the individual/environment paradigm, we assume that the ultimate value of a developmental physical education program is to fulfill the needs of the children regarding themselves, the others, and the outside world.



(Source: Krebs, 1994)

Figure 1. The individual /environment paradigm

Conceptual framework

All curricula require a conceptual framework in order to establish common ground and terminology of implementing the program. The conceptual framework for the developmental physical education curriculum includes:

A. Categories of movement: locomotor movements, manipulative movements, stability movements, and movement phrases, eg. movement combinations.

B. Content areas of physical education: educational games, educational dance,

and educational gymnastics.

C. Movement concepts of movement education: effort, space, and relationships.

D. Phases and stages of motor development: fundamental phase and specialized phase.

E. Levels and stages of movement skill learning: beginning/novel level, intermediate/practice level, and advanced/fine tuning level.

F. Components of physical fitness: health-related components and performance-related components.

G. Styles of teaching: direct teaching styles, indirect teaching styles, and combining teaching styles. (Gallahue, 1993)

Objectives

Goals are generally considered to be broad areas of continuing interest and importance directing to the establishment of objectives. Major goals of the developmental physical education program include improved movement/ fitness competence, enhanced cognitive competence, and more effective affective competence. Description of these goals and their general objectives were presented as the following.

A. motor development goals: to assist children in becoming skillful movers, to aid children in becoming knowledgeable movers, to promote children's development as expressive movers, to provide children with opportunities to become fit movers, to educate children with the fitness knowledge to be informed movers, and to create and environment that encourages children to be eager movers. In the motor area, skillful mover and fit mover goals translated into general objectives:

(A) movement skill objectives: (a) to develop mature patterns in a variety of fundamental locomotor skills, (b) to attain mature skill development in a variety of fundamental manipulative skills, (c) to achieve mature levels in a variety of fundamental stability skills, (d) to develop an acceptable level of skill in a variety of individual and team sports, and (e) to enhance skillful rhythmic movement in a variety of fundamental, creative, folk and square dance activities.

(B) physical fitness objectives: (a) to foster improved levels of health-related fitness, and (b) to promote improved performance-related fitness.

B. Cognitive development goals: to promote an environment that encourages children to be multi-sensory learners, to stimulate children's interest in being active learners. In the cognitive area, knowledgeable mover, active learner and multi-

sensory learner goals translated into general objectives:

(A) to improve the perceptual-motor learning in body, spatial, directional, and temporal awareness.

(B) to develop knowledge and understandings in a variety of activities including rules, strategies, fitness concepts, healthful living, and responsible decision making.

(C) to reinforce a variety of academic concepts in mathematics, science, social studies, and language arts.

C. Affective development goals: to assist children in becoming positive self-discovering learners, to create an environment that helps children become cooperative learners. In the affective area, expressive mover, self-discovering learner and cooperative learner goals translated into general objectives:

(A) to encourage self-expression, motor creativity and aesthetic appreciation of movement.

(B) to contribute to a positive self-concept, self-confidence, and perceived physical competence.

(C) to develop positive socialization skills through cooperative play. (Gallahue, 1993)

Gallahue (1993) established this goals / objective system with comprehensive perspective, however, another scholar addressed the objectives of movement education in a different way. A well-known Japanese scholar, his work was translated by 陳英三、林風南、吳新華 (1995) into Chinese, proposed that the basic issues of the movement education included the improvement of the following:

A. Sensory-motor skills. In early childhood, the major objective of sensory-motor skills should be the improvement of flexibility. The concept of flexibility includes the competence of accordance, agility, and balance.

B. Body awareness. In the viewpoint of movement education, definition of body awareness does not only include body image and body scheme but also include body concept.

C. Awareness of time, space, and causality. Awareness of people about their surrounding environments was derived from interweaving phenomenon of time and space. The mutual causality among this phenomenon was crucial in perceiving our environments. Rhythmic movements were the best activities which can improve time awareness. Space awareness was generally improved by movements which can direct the development of visual perception. These movements include manipulating self-body, throwing / catching balls, pushing wheels, jumping-over ropes, hitting balls hanging in the air, and crossing-over objects.

D. Psychological functions. Psychological functions indicated to language skills, functions of visualization and metal-image, competence of problem solving, and functions of combining different procedures.

These objectives proposed in the translation work of 陳英三等 (1995) was mainly focused on the areas of motor and cognitive development when comparing with Gallahue's (1993) goal / objective system. In Gallahue's goal / objective system, affective objectives was addressed as self-expression, self-confidence, and socialization skills. These affective objectives can be elaborated as to manage behavior problems which might intervene the effectiveness of learning. Regarding setting-up objectives about general learning behaviors, some common problems proposed by different studies might provide us clues. Rohrkemper & Brophy (1980) noted twelve types of student problem behavior depicted by elementary teachers. Some of the problem behaviors included were underachiever, shy/withdrawn, short attention span, and hostile/passive aggression. Kennison (1996) reported a wilderness program proposed for youth aged 8-18 with a diagnosed learning disability or attention deficit disorder. In order to provide with a positive intervention, some of the problem behaviors addressed in this program were related to self-esteem, social skills, attention problems, and failure to complete tasks.

According to Rohrkemper & Brophy (1980) and Kennison (1996), the common learning problems both studies tried to analyze included short attention span, low self-esteem or shy / withdrawn, underachiever or failure to complete tasks, and hostile / passive aggression or poor social skills. In order to enhance the effectiveness of an education program, no matter it is PE or language arts, there should be objectives setting-up to manage these general learning problems in addition to objectives focused on movement learning.

The objectives of general learning behaviors might be established by integrating the common points of Gallahue (1993), Rohrkemper & Brophy (1980), and Kennison (1996) into concentration, confidence, positively responding to challenge, and friendly peer relationships.

Implementation

Jean Piaget's theory of cognitive development describes the interaction between biological and sociological factors. His theory emphasizes five factors: (a) schema, the original patterns of the thinking that people use for dealing with specific situations in their environment; (b) adaptation, the process by which individuals adjust their thinking to new conditions or situations; (c) assimilation, acquiring new

information by using already existing cognitive structures; (d) accommodation, adjusting to new information by creating new cognitive structures; and , (e) equilibrium, a balance between schema and accommodation (Rice, 1992).

Based on Piaget's concepts, Krebs (1994) proposed that the contents of the physical education program should incorporate the following principles:

A. Start with simple structure (schema) and, progressively go to more complex ones.

B. Allow every child to experience a variety of movement activities (assimilation).

C. Allow enough time for the child to become familiar with the movement and /or the apparatus (accommodation).

D. Allow children to make their own decisions regarding best ways to move and keep their body under control (adaptation).

E. Be aware of the amount and complexity of the content of the lesson, regarding children's level of motor development (equilibrium).

Faught (1994), a creative movement consultant, suggested that a movement class structure usually includes a warm-up, a main activity and some type of closure which acts as a sharing time. Warm-ups provide a time to center or focus the group as well as working on coordination, flexibility, stretching and directionality. The warm-up includes isolations of the body and total body movement and is done in a circle or line formation (Faught, 1994). Plummer & Rougeau (1997) proposed that initiative activities could be teamwork activities which can include and value each member of a class. These activities involve a mixture of challenge, inclusion, and developmentally appropriate physical activities to create a program for children that brings together the fundamental elements of teamwork. Using initiatives gives students opportunities for decision making, consensus building, and teamwork.

The main activity should include a combination of individual and group work. Any physical activity associated to individuality will be initially described as exercise. Physical activity related to sociability will be primarily called either game or dance. Between exercise and game/dance, Krebs (1994) created a system to classify games, exercises, and dances into a curricular model:

A. activities of low organization: (a) running games, (b) line games, (c) circle games, and (d) role-playing games.

B. pre-sport activities: (a) close-skill games, and (b) open-skill games.

C. rhythmic activities: (a) singing games, (b) folk dances, and (c) rhythmic exercises.

D. activities of posture and locomotion: (a) exercises of reproduction of movement, and (b) exercises of production of movement.

E. self-control activities: (a) exercises without material, and (b) exercises with material.

Assessment

Criterion of an assessment must develop from the value, conceptual framework, and objectives of a program. The content of an assessment usually was elaborated according to objectives of that program and reformed by activities played in class.

The Movement Education Program Assessment (MEPA) (陳英三等, 1995: 75-93), developed by a Japanese scholar, defined sensory-motor, language-sociality, flexibility, and strength as four categories to understand or diagnose the movement development of a child. In addition, the MEPA was good at providing information for planning individual movement education program.

The general learning objectives, which were proposed in related literatures (Gallahue, 1993; Rohrkemper & Brophy, 1980; Kennison, 1996) regarding concentration, confidence, challenge, and peer relationship, were not easy to find published assessment instruments to assess them. Authentic observation might be a good alternative for assessing the effectiveness of accomplishing these objectives.

Inclusive PE program

Under the issue of inclusive PE program, effects of inclusive PE program were reviewed. The programs operated in the following studies were focused on motor skills, sports activities, or motor activities. All of these studies indicated positive effects of inclusion PE programs.

Bilir, et al. (1995) compared motor development in 48 normal children (ages 3 to 6), 12 children (ages 5 to 7) with Down syndrome, and 33 children (ages 3 to 7) with hearing impairments. Results revealed that motor skills developed more slowly in the hearing impaired children and the Down syndrome children than in the normal children. In comparison with the normal children, the hearing impaired children seemed to perform more poorly in skills associated with balance and general coordination than in other skills. The Down syndrome children demonstrated poorer performance than the normal children in all motor skills. Results support the systematic inclusion of physical education activities in programs for children with disabilities.

St. Clair (1995) investigated which environment for learning motor skills is the most effective for children with disabilities. Twenty children who are deaf with other impairments were involved in this study. Eleven participated in physical education with their age appropriate deaf peers and nine participated with their peers from their self-contained class. The age of these children was six to eleven. A pre-test was given to all participants at the beginning of the program and a post-test followed after 12 weeks of instruction. The instructional program emphasized fundamental motor skills and sports activities. In both the locomotor and the object control domain the children involved in the mainstreamed group demonstrated significantly greater gains than those participating in the segregated program. However, St. Clair noted that as an artifact of the small sample size the data may be skewed.

Elliott (1997) investigated effects of participation in the Every Child a Winner Preschool (ECWP) program and free play on the motor creativity of preschoolers, with and without developmental delays, in inclusive and general physical education settings. The research process included: (a) subject selection from four intact inclusive and general physical education classes of preschoolers; (b) administration of the ECWP program over 20 sessions with a comparison group receiving supervised free play; (c) a pretest-post test measurement done individually, using the Thinking Creatively in Action and Movement (TCAM) Test; and (d) data analysis using a two-way ANOVA and Tukey Pairwise Comparison, plus the Kolmogorov-smirnov 2-Sample Test. The results presented that there was significant improvement in total scores on the TCAM for the experimental groups receiving the ECWP program, but no significant difference in motor creativity in preschoolers from an inclusive physical education class and a general physical education class. Also, there was no significant difference in motor creativity scores within an inclusive physical education class using the ECWP program or free play. These findings support usage of the ECWP program and inclusive physical education at the preschool level.

Johnson (1996) investigated a program of physical activities which has its foundation in theories established by Piaget, Erikson, Skinner, and Gesell, examines the link between movement and cognitive learning. The program which addressed the causes of learning problems was conducted in a specially equipped building on each school day during an academic year. This research design was quasi-experimental in nature and data were collected both by means of qualitative and quantitative investigation. The subjects in the study were children enrolled in a

rural, southwestern Michigan school. The 115 children were chosen for inclusion in the program because they possessed certain physical or cognitive characteristics for having learning problems. The results indicated that a positive change occurred in all areas of investigation for the children enrolled in the program.

CHAPTER III

METHODS

Research design

The decision-making of value and objectives of this inclusive program led to the design of lesson plans. All lesson plans of this inclusive PE program were designed with a balance on movement-related performance and five themes of learning behavior. Each lesson plan was adjusted before implemented according to children's feedback, the author's reflections, and observation logs of sessions ahead of it. This was the formative evaluation process in the research framework (as Figure 2). After the end of the implementation of this program, the effectiveness of this program was evaluated by the difference between the pretest and the posttest of the Movement Education Program Assessment (MEPA). This was the summative evaluation process. A conclusion was presented to address foundlings of this study, and a recommendation was proposed about teacher training and incorporated-subjects teaching.

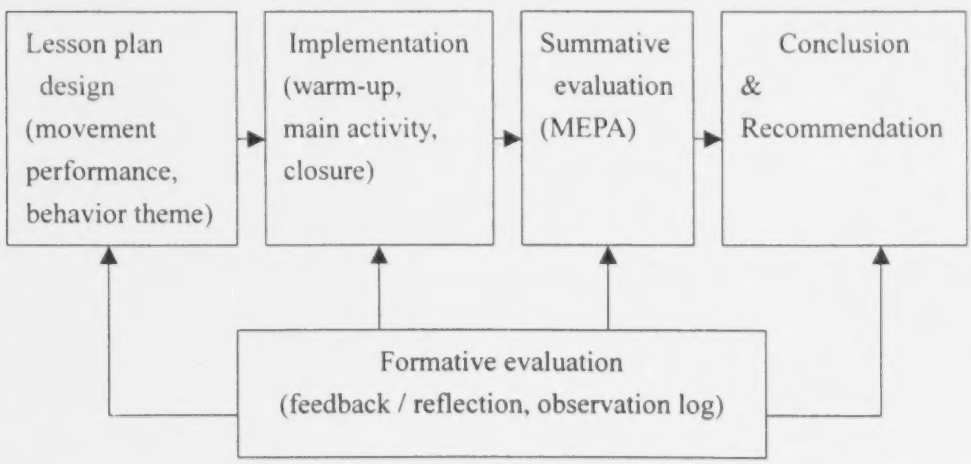

Lesson plan design (movement performance, behavior theme)
Implementation (warm-up, main activity, closure)
Summative evaluation (MEPA)
Conclusion & Recommendation
Formative evaluation (feedback / reflection, observation log)

Figure 2. Research framework of the study

Program development

According to the aforementioned literature, the author developed a curriculum model for this inclusive program (see Figure 3). Diversity was the eternal value to indirect this inclusive program. The conceptual framework followed the value of diversity was proposed as the incorporation of individuality and sociability. Sociability addressed the essence of caring, and individuality addressed the awareness of individual difference. Regarding lesson objectives, movement-related performance and positive learning behaviors were proposed. The definition of movement-related performance was addressed as sensory-motor, language-sociality, flexibility, and muscular strength as the Movement Education Program Assessment (MEPA) (陳英三、林風南、吳新華, 1995: 75-93), which was adopted to assess children's performance level in this study. The specific emphasis within categories of sensory-motor, language-sociality, flexibility, and strength were illustrated in Table 1. With different emphasis, categories of sensory-motor, flexibility, and strength were mainly related to movement while language-sociality might relate to the effectiveness of learning in a group circumstance.

Five positive learning behavior themes were proposed in order to indicate that effective learning has its common features no matter in which subject or with which group. These five behavior themes were basically followed the objectives addressed in literature analysis. Concentration, confidence, and challenge were maintained the same, while the peer relationship was elaborated to helping peers and appreciating peers. Helping and appreciating peers were especially necessary in a group circumstance, while concentration, confidence, and challenge were always effective features in any learning circumstance. In each session of this program, all of the aforementioned value, conceptual framework, and objectives were incorporated into three implementation stages, that was warm-up, main activity, and closure.

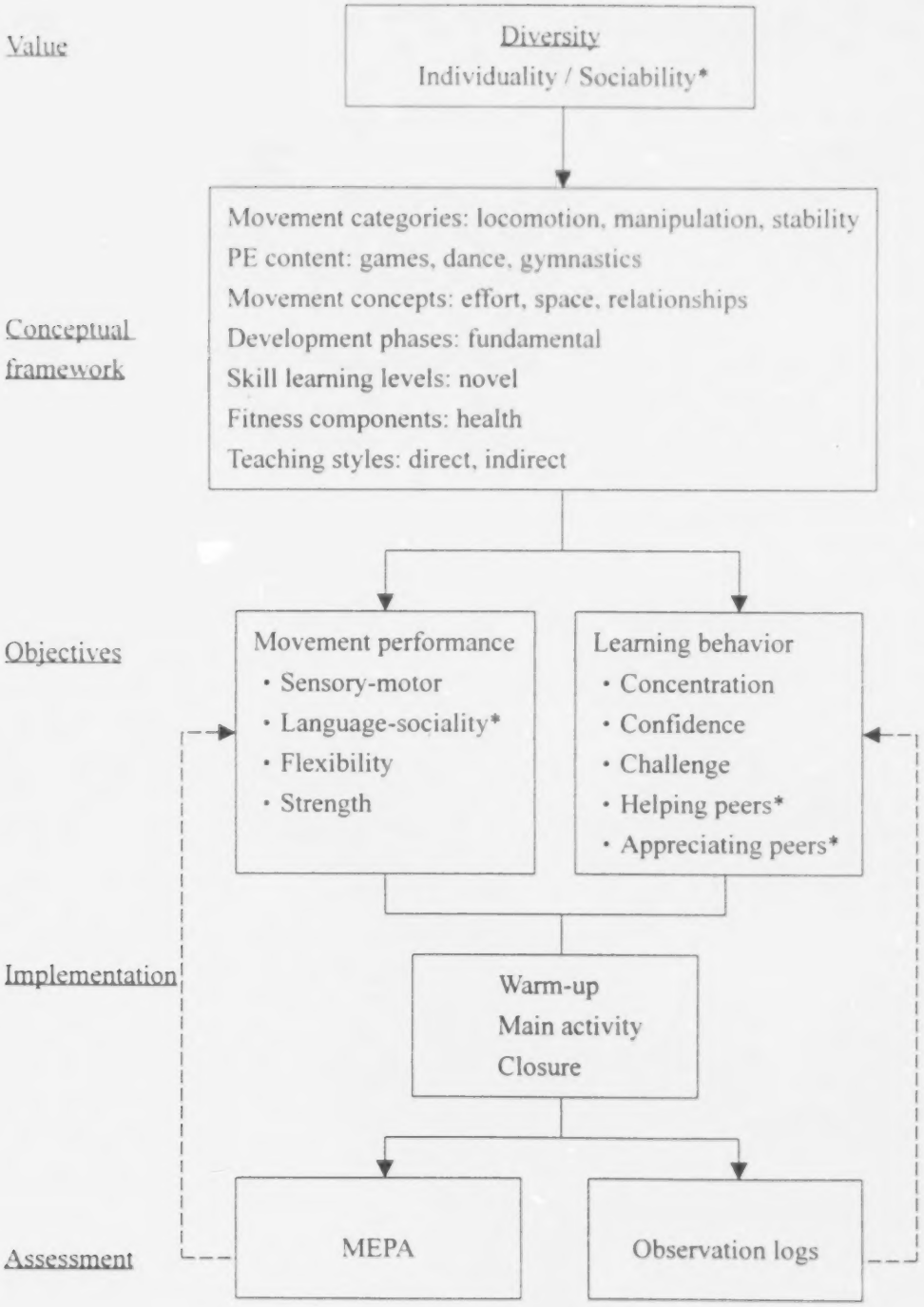


Figure 3. Curriculum development model of the proposed inclusive PE program

Table 1

The construct of the MEPA

Body Awareness		Movement Features	
Sensory-Motor	Language-Sociality	Flexibility	Strength
• Posture	• Receptive language	• Accordance	• Muscular strength
• Locomotion	• Expressive language	• Agility	• Endurance
• Manipulation	• Interpersonal Relationship	• Balance	

Sampling

Children in an inclusive kindergarten class were participants of the PE program of this study, nine of them were boys and ten of them were girls. This class was composed of five disabled children and fourteen typical peers. These disabled children were screened with disabilities in mild levels. Their disability conditions were Downs, brain injury, autism, or cardiovascular diseases. In order to analyze outcomes of the proposed physical education program, a pretest and a posttest were administered to collect the data of children's improvement of movement-related performance. All of the five disabled children were designated as the experimental group. Being close in their birth date with each of these disabled children, another five typical children in this class were designated as their comparing group. A control group is always important for an experiment. The control group designated was five children of a regular class in the same kindergarten, which were close in the birth date with each of the five disabled children. The demographic data of these subjects were shown as Table 2.

Table 2

Demographic data of samples

Group	Class	Condition	Gender	Age	Treatment
X1	I	D	B	5y 7m	X
X2	I	D	G	5y 1m	X
X3	I	D	B	6y 7m	X
X4	I	D	B	5y 6m	X
X5	I	D	G	5y 3m	X
Cp1	I	T	B	5y 3m	X
Cp2	I	T	G	5y 0m	X
Cp3	I	T	B	5y 4m	X
Cp4	I	T	B	5y 2m	X
Cp5	I	T	G	5y 0m	X
Ct1	R	T	B	5y 2m	C
Ct2	R	T	G	5y 0m	C
Ct3	R	T	B	5y 3m	C
Ct4	R	T	B	5y 2m	C
Ct5	R	T	G	5y 1m	C

Note. 1.Group: " X " = Experiment, " Cp " = Compare, " Ct " = Control.

2. Class: " I " = Inclusive, " R " = Regular.

3. Condition: "D " = Disabled, "T " = Typical.

4. Gender: " B " = Boy, "G " = Girl.

5. Age: till January 1999.

6. Treatment: " X " = Experiment sessions, " C " = Control sessions.

Procedures

In this kindergarten, the frequency of PE sessions of these two classes was regulated the same. The facility and equipment available for them were the same, too. Originally, the teachers of each different class in this kindergarten conducted PE sessions of their own class. During the time this program was implemented, the author met this inclusive class once a week to conduct a PE session. In the rest time of a week, children in this inclusive class had PE sessions with their class teachers. The other class with children of the control group always had PE sessions with their own class teachers. The only difference between the inclusive class and the class with children of the control group was that the author taught PE once in a

week with the inclusive class while did not teach the other one. Lesson plans of these two classes might be different because of different class teachers. This PE program began in October 1998 and ended in January 1999.

A pretest was administered before the beginning of this PE program and a posttest was administered after the end of this program. The experimental design of the study, according to Krathwohl's (1993) point of view, was an adjusted nonequivalent control group design (p. 453) (see Figure 4).

O	X (X)	O
O	X (Cp)	O
O	C (Ct)	O

Note. 1. O= a pretest/posttest;
2. X (X)= experimental treatment with all of the five disabled children as an experiment group;
3. X (Cp)= experimental treatment with five typical peers in the inclusive class as a compare group;
4.C (Ct)= control treatment with five typical children in a regular class as a control group.

Figure 4. Experiment design of the study

Criterion of assessment

There were two approaches of collecting assessment information. The information of formative evaluation was collected by finding behavior cues related to five positive behavior themes. Regarding the summative evaluation, the instrument served for the pretest and posttest was the Movement Education Program Assessment (MEPA) (陳英三等, 1995). In this study, the assessment was served to evaluate behaviors in four categories with eleven components (as shown in Table 1). The category of sensory-motor includes posture, locomotion, and manipulation. The category of language-sociality includes receptive language, expressive language, and interpersonal relationship. The category of flexibility includes accordance, agility, and balance. The category of strength includes muscular strength and

endurance.

Validity of observation

The whole processes of all sessions were video taped. In order to obtain in-depth information, five observers monitored the five disabled children in this inclusive class in six sessions. Because too many observers in a room may cause intervention of learning effects, only these disabled children were monitored. These five observers either had taken courses regarding research methods or were taking these courses during that time. An instruction session of behavior observation techniques was conducted to these volunteer observers.

The technique used in behavior analysis of the study was interval recording (Alberto & Troutman, 1990). Dividing an observation session into intervals of 60-second, each child observed was recorded 30 times in a session. The intervals were pre-recorded on an audiocassette in order to eliminate the difficulty of time control. Each interval was divided into two parts, the first 40 seconds for observing and the second 20 seconds for recording (as shown in Figure 5).

Length of an observation interval (60 sec.)	
Observing (40 sec.)	Recording (20 sec.)

Figure 5. The division of an observation interval

Before the proceeding of the formal data collection, a trial observation was conducted. One purpose of the trial observation was to help observers acquainting themselves with the pre-recorded cassette with observation intervals. The other purpose of the trial observation was to prepare children acquainting themselves with the presence of observers and the status of video taping. In the beginning of the trial observation, children were exciting with the strange climate in their class. Till the middle of lesson, children acquainted themselves with the setting and started to calm down.

The author reviewed and discussed the taped session of the trial observation with each observer in order to examine the accuracy of each observation log. The agreement between observers was obtained by reviewed the tape and making a log with another subject. Two observation logs with the same subject were compared.

All of the description of the occurrence of each subject reached 80% in each pair of logs. In order to promote the accuracy of observation logs in the formal data collection, the author discussed observation logs with each observer individually after each observation session.

Data analysis

The process of data analysis was directed by both of the qualitative and quantitative perspectives. Regarding the qualitative perspective, a well-trained translator coded the information collected by observation logs with five behavior themes. The five themes were concentration, confidence, positively responding to challenge, helping peers, and appreciating peers. Results of the coding were presented in ways of summing-up intervals and continuous intervals. In addition, summary of these observation logs was presented by child and behavior themes.

Regarding the quantitative perspective, the data collected by a pretest and a posttest was analyzed by a percentage analysis to present the improvement of each child. The improvement status and the number of children making improvement during this program were also presented.

The analysis of observation logs was focused on positive learning behavior themes, and the comparison of the changes between a pretest and a posttest was focused on movement-related performance. Incorporating results of these two perspectives, it can help people to exam whether this PE program was beneficial to children within this inclusive class in a broader sense.

CHAPTER IV

RESULTS

Results were presented by topics of lesson plans, observation logs, and performance in the MEPA.

Lesson plans

During the months of September, October, November, and December in 1998, twelve sessions were conducted, while five sessions were canceled because the reasons of the weather, field teaching, or holidays, or class jam. These canceled sessions were (a) Oct.16 bad weather (typhoon), (b) Oct.23 the author's class jam, (c) Oct.30 field teaching (children were out of town), (d) Dec.25 holiday, and (e) Jan.01 holiday.

These twelve lesson plans of each session were illustrated as Tables 3- 14. There was a reflection in the end of each lesson plan.

Within the months of January, February, March, and April in 1999, there were nine PE sessions conducted. These sessions introduced deeper emphasis on concentration and confidence, while the themes of challenge, helping peers, and appreciating peers were maintained in a high performance level. Simultaneously, the difficulty level of movement skills and physical fitness was enhanced according to the performance level of individual child.

Table 3

Lesson plan of session 1

Date: 1999.10.02

Procedure (time) (time)	Theme (behavior / movement)	Activity (materials) & method
Beginning Warm-up (5 min.)	Concentration	Stretching rhythm (music): greet teachers and peers.
Initiation (5 min.)	Helping & appreciating	Mirroring (music): mimic your partner's posture.
Main activity Introduction (5 min.)	Confidence, Challenge	Introduce the challenging tasks of each activity for today with the demonstration of volunteers.
Group practice (20 min.)	Sensory-motor, Language-sociability, Flexibility, Strength	1. Ball play (6" ball): roll a ball in a straight path to your partner. 2. Horse riding (lateral swing): enjoy swinging with either posture of sitting up or laying face down during swinging. 3. Cruise (sliding board): slide around the floor with either posture of sitting up or laying face down.
Free group (5 min.)	As the above	Each child chooses a group from these four: 1.+2.+3.+ ball swimming (ball pool).
Closure Review (5 min.)	Confidence, helping, appreciating,	1. Children share their reflections about today's lesson and appraise the performance of others. 2. Teacher appraises children's performance with details described.
Relaxation (3 min.)	Concentration	Quiet sitting (music).
Planning (2 min.)	Challenge	Discuss what to do in the next lesson.

Overall reflection: I appreciate children's cooperation in the first session. In order to have a more enjoyable class mood, more transition along the proceeding of activities will be needed.

Table 4

Lesson plan of session 2

Date: 1999.10.09

Procedure (time)	Theme (behavior / movement)	Activity (materials) & method
Beginning Warm-up (5 min.)	Concentration	One leg standing (music): mimic birds and dragon flies.
Initiation (5 min.)	Helping and appreciating	Mirroring (music): mimic your partner's posture.
Main activity Introduction (5 min.)	Confidence, Challenge	Introduce the challenging tasks of each activity for today with the demonstration of volunteers.
Group practice (20 min.)	Sensory-motor, Language-sociability, Flexibility, Strength	1. Line walking (long cotton rope): walking along a curling line. 2. Cruise (sliding board): slide down from a sliding chute with the posture of laying face down. 3. Horse riding (lateral swing): pick up a ball from the hand of the teacher then throw into a bucket with the posture of laying face down during swinging.
Free group (5 min.)	As the above	Each child chooses a group from these four: 1.+2.+3.+ ball swimming (ball pool).
Closure Review (5 min.)	Confidence, helping, appreciating,	1.Children share their reflections about today's lesson and appraise the performance of others. 2.Teacher appraises children's performance with details described.
Relaxation (3 min.)	Concentration	Quiet sitting (music).
Planning (2 min.)	Challenge	Discuss what to do in the next lesson

Overall reflection: 1. Children's response to my teaching was great. 2. Be able to call each child's name out is important in future teaching. 3. I need to work for better transitions along the proceeding of a class.

Table5

Lesson plan of session 3

Date: 1999.11.06

Procedure (time)	Theme (behavior / movement)	Activity (materials) & method
Beginning Warm-up (5 min.)	Concentration	Hoping in beats One leg standing: mimic birds, dragon flies
Initiation (5 min.)	Helping and appreciating	Mirroring (music): mimic your partner's posture.
Main activity Introduction (5 min.)	Confidence, Challenge	Introduce the challenging tasks of each activity for today with the demonstration of volunteers.
Group practice (20 min.)	Sensory-motor, Language-sociability, Flexibility, Strength	1. Passing a bridge (balance beam): try out walking forward and backward, side walking, sitting on feet walking, crawling. 2. Turning bear (hanging cylinder): hold tightly with arms and legs when turning around. 3. Horse riding (lateral swing): pick up a ball from the hand of the teacher then throw into a bucket with the posture of laying face down during swinging.
Free group (5 min.)	As the above	Each child chooses a group from these four: 1.+2.+3.+ ball swimming (ball pool).
Closure Review (5 min.)	Confidence, helping, appreciating,	1.Children share their reflections about today's lesson and appraise the performance of others. 2.Teacher appraises children's performance with details described.
Relaxation (3 min.)	Concentration	Quiet sitting (music): discuss feelings.
Planning (2 min.)	Challenge	Discuss what to do in the next lesson

Overall reflection: Both of children and me felt more comfortable during the proceeding of today's class. Some activities may need be adjusted by children's competence levels.

Table 6

Lesson plan of session 4

Date: 1999.11.13

Procedure (time)	Theme (behavior / movement)	Activity (materials) & method
Beginning Warm-up (5 min.)	Concentration	Stretch large muscles Rolling eggs: curling body parts into an egg, rolling around then standing up quickly
Initiation (5 min.)	Helping and appreciating	Mirroring (music): mimic your partner's posture.
Main activity Introduction (5 min.)	Confidence, Challenge	Introduce the challenging tasks of each activity for today with the demonstration of volunteers.
Group practice (20 min.)	Sensory-motor, Language-sociability, Flexibility, Strength	1. Passing a bridge with stuffs (balance beam, hula hoops): walk forward with one hand holding, both hands holding, or arms hanging stuffs. 2. Distance throwing (sand ball): throw balls into holes of a standing board. 3. Don't fall (balance board): keep balance in a sitting posture. 4. Turning catch (balance plate): catch a ball throwing from the teacher when the balance plate is turning around.
Free group (5 min.)	As the above	Each child chooses a group from these five: 1.+2.+3.+4.+ ball swimming (ball pool).
Closure Review (5 min.)	Confidence, helping, appreciating,	1.Children share their reflections about today's lesson and appraise the performance of others. 2.Teacher appraises children's performance with details described.
Relaxation (3 min.)	Concentration	Stretch (music).
Planning (2 min.)	Challenge	Discuss what to do in the next lesson

Overall reflection: Children worked with the activities designated in today's lesson plan well. The proceeding of today's class was more smoother than before.

Table 7

Lesson plan of session 5

Date: 1999.11.20

Procedure (time)	Theme (behavior / movement)	Activity (materials) & method
Beginning Warm-up (5 min.)	Concentration	Stretch
Initiation (5 min.)	Helping and appreciating	Two person stretch
Main activity Introduction (5 min.)	Confidence, Challenge	Introduce the challenging tasks of each activity for today with the demonstration of volunteers.
Group practice (20 min.)	Sensory-motor, Language-sociability, Flexibility, Strength	1.Cruise (sliding board): slide down from a slide chute and slide along a designate route. 2.Blind passing (balance beam): walk forward with eyes closed. 3.Horse riding (Side swing): pick up a ball and throw through a hula hoop with a sitting posture during swinging.
Free group (5 min.)	As the above	Each child chooses a group from these four: 1.+2.+3.+ ball swimming (ball pool).
Closure Review (5 min.)	Confidence, helping, appreciating,	1.Children share their reflections about today's lesson and appraise the performance of others. 2.Teacher appraises children's performance with details described.
Relaxation (3 min.)	Concentration	Quiet sitting and stretch (music).
Planning (2 min.)	Challenge	Discuss what to do in the next lesson

Overall reflection: In today's lesson, the estimation of the amount of energy needed in each activity and the control of mood between two extremes of excitement and calm seemed to fit these children better than before. Although holding three groups in the group practice time decreased the length of waiting time, it made teachers feeling overwhelming in regulating the whole class. In addition, there are usually less than two teachers in a kindergarten class. I will decrease the group number in the next session.

Table 8

Lesson plan of session 6

Date: 1999.11.27

Procedure (time)	Theme (behavior / movement)	Activity (materials) & method
Beginning Warm-up (5 min.)	Concentration	1.super man: mimic the flying posture of super man 2.body parts pushing floor: moving around the gym with music, stop to push the floor with the designated body parts when the teacher called
Initiation (5 min.)	Helping and appreciating	Body parts pushing partner: moving around the gym with music, stop to push your partner with the designated body parts when the teacher called
Main activity Introduction (5 min.)	Confidence, Challenge	Introduce the challenging tasks of each activity for today with the demonstration of volunteers.
Group practice (20 min.)	Sensory-motor, Language-sociability, Flexibility, Strength	1.Blind passing (balance beam): walk forward with eyes closed. 2.Cruise (sliding board): slide along a curling route.
Free group (5 min.)	As the above	Each child chooses a group from these three: 1.+2.+ ball swimming (ball pool).
Closure Review (5 min.)	Confidence, helping, appreciating,	1.Children share their reflections about today's lesson and appraise the performance of others. 2.Teacher appraises children's performance with details described.
Relaxation (3 min.)	Concentration	Quiet sitting and stretching (music).
Planning (2 min.)	Challenge	Discuss what to do in the next lesson

Overall reflection: the group number in the group practice time was decreased from three to two. Holding two groups did work fine.

Table 9

Lesson plan of session 7

Date: 1999.12.04

Procedure (time)	Theme (behavior / movement)	Activity (materials) & method
Beginning Warm-up (5 min.)	Concentration	Super man: moving around and mimic super man's flying postures
Initiation (5 min.)	Helping and appreciating	Two person stretch
Main activity Introduction (5 min.)	Confidence, Challenge	Introduce the challenging tasks of each activity for today with the demonstration of volunteers.
Group practice (20 min.)	Sensory-motor, Language-sociability, Flexibility, Strength	1.Ball play (6" ball): throw and catch a ball between partner. 2.Monkey jumping (trampoline): jump up as high as possible. 3.Turning bear (hanging cylinder): hold a hanging cylinder tightly with arms and legs when turning around.
Free group (5 min.)	As the above	Each child chooses a group from these four: 1.+2.+3.+ ball swimming (ball pool).
Closure Review (5 min.)	Confidence, helping, appreciating,	1.Children share their reflections about today's lesson and appraise the performance of others. 2.Teacher appraises children's performance with details described.
Relaxation (3 min.)	Concentration	Quiet sitting (music).
Planning (2 min.)	Challenge	Discuss what to do in the next lesson

Overall reflection: Children had fun during the class time. I think it is time to evoke more instances of occurrence of behavior themes related in spiritual domain, those are concentration, helping peers, and appreciating peers.

Table 10

Lesson plan of session 8

Date: 1999.12.11

Procedure (time)	Theme (behavior / movement)	Activity (materials) & method
Beginning Warm-up (5 min.)	Concentration	Freeze sculpture: moving around and freeze during the pause of the music
Initiation (5 min.)	Helping and appreciating	Four-beat action: try to make a four-beat action by self Mimic your partner: try to mimic your partner's four-beat action
Main activity Introduction (5 min.)	Confidence, Challenge	Introduce the challenging tasks of each activity for today with the demonstration of volunteers.
Group practice (20 min.)	Sensory-motor, Language-sociability, Flexibility, Strength	1.Blind passing (balance beam): walk forward and backward with eyes closed. 2.Horse riding (Side swing): pick up a ball and throw through a hula hoop with a sitting posture during swinging.
Free group (5 min.)	As the above	Each child chooses a group from these three: 1.+2.+ ball swimming (ball pool).
Closure Review (5 min.)	Confidence, helping, appreciating,	1.Children share their reflections about today's lesson and appraise the performance of others. 2.Teacher appraises children's performance with details described.
Relaxation (3 min.)	Concentration	Quiet sitting (music).
Planning (2 min.)	Challenge	Discuss what to do in the next lesson

Overall reflection: Children showed a higher level of concentration in today's practice. In addition, they performed higher confidence when participating activities.

Table 11

Lesson plan of session 9

Date: 1999.12.18

Procedure (time)	Theme (behavior / movement)	Activity (materials) & method
Beginning Warm-up (5 min.)	Concentration	Bubble holding: try to catch a bubble and hold it with hands without breaking it
Initiation (5 min.)	Helping and appreciating	Hotdog rolling: single hotdog, double hotdog, triple hotdog
Main activity Introduction (5 min.)	Confidence, Challenge	Introduce the challenging tasks of each activity for today with the demonstration of volunteers.
Group practice (20 min.)	Sensory-motor, Language-sociability, Flexibility, Strength	1.Running relay (target): clap the next child's hand when returning to your group. 2.Turning bear (hanging cylinder): hold a hanging cylinder tightly with arms and legs when turning around.
Free group (5 min.)	As the above	Each child chooses a group from these three: 1.+2.+ ball swimming (ball pool).
Closure Review (5 min.)	Confidence, helping, appreciating,	1.Children share their reflections about today's lesson and appraise the performance of others. 2.Teacher appraises children's performance with details described.
Relaxation (3 min.)	Concentration	Quiet sitting (music).
Planning (2 min.)	Challenge	Discuss what to do in the next lesson

Overall reflection: I have to learn more about how to evoke the behavior of helping peers and appreciating peers in a natural way within the proceeding of activities.

Table 12

Lesson plan of session 10

Date: 1999.01.08

Procedure (time)	Theme (behavior / movement)	Activity (materials) & method
Beginning Warm-up (5 min.)	Concentration	Bubble holding
Initiation (5 min.)	Helping and appreciating	Rolling hotdog: single, double, and triple
Main activity Introduction (5 min.)	Confidence, Challenge	Introduce the challenging tasks of each activity for today with the demonstration of volunteers.
Group practice (20 min.)	Sensory-motor, Language-sociability, Flexibility, Strength	1. Bowling relay (bowling set): the child who throws must helping to place back the bottles fallen, and the next child must run after the thrown ball as quick as he/she can and bring it back for his/her throwing. 2. Monkey jumping (trampoline): jump up high in order to bet the bell drum hanging above.
Free group (5 min.)	As the above	Each child chooses a group from these three: 1.+2.+ ball swimming (ball pool).
Closure Review (5 min.)	Confidence, helping, appreciating,	1.Children share their reflections about today's lesson and appraise the performance of others. 2.Teacher appraises children's performance with details described.
Relaxation (3 min.)	Concentration	Quiet sitting with long breath (music).
Planning (2 min.)	Challenge	Discuss what to do in the next lesson

Overall reflection: During the activity of bubble holding, some children were not easy to concentrate. They were so eagle to catch bubbles that they always broke bubbles as a result. They need more concentration in order to keep bubbles as a whole on their palms.

Table 13

Lesson plan of session 11

Date: 1999.01.15

Procedure (time)	Theme (behavior / movement)	Activity (materials) & method
Beginning Warm-up (5 min.)	Concentration	Bubble holding: follows bubbles and try to hold a bubble on the center of palms.
Initiation (5 min.)	Helping and appreciating	Rolling hotdog: laying on floor with arms over head and rolls with music
Main activity Introduction (5 min.)	Confidence, Challenge	Introduce the challenging tasks of each activity for today with the demonstration of volunteers.
Group practice (20 min.)	Sensory-motor, Language- sociability, Flexibility, Strength	1. Jumping over bricks (large soft blocks): jump over with hands free or holding hula hoop. 2. Blind passing (balance beam): walk forward and backward with eyes closed without teacher's assist.
Free group (5 min.)	As the above	Each child chooses a group from these three: 1.+2.+ ball swimming (ball pool).
Closure Review (5 min.)	Confidence, helping, appreciating,	1.Children share their reflections about today's lesson and appraise the performance of others. 2.Teacher appraises children's performance with details described.
Relaxation (3 min.)	Concentration	All in still: a plastic ball stays still on any parts of body.
Planning (2 min.)	Challenge	Discuss what to do in the next lesson

Overall reflection: Plastic balls was too light and without softness to stay on body parts. Balls made by clothe and stuffed with sand should be a better choice.

Table 14

Lesson plan of session 12

Date: 1999.01.22

Procedure (time)	Theme (behavior / movement)	Activity (materials) & method
Beginning Warm-up (5 min.)	Concentration	Frozen sculpture: individual free movement around the gym, and suddenly freezes while the music is paused.
Initiation (5 min.)	Helping and appreciating	Sticky sculpture: the same as the aforementioned frozen sculpture, but two children must always stick together. Increase the number of children who stick together when possible.
Main activity Introduction (5 min.)	Confidence, Challenge	Introduce the challenging tasks of each activity for today with the demonstration of volunteers.
Group practice (20 min.)	Sensory-motor, Language-sociability, Flexibility, Strength	1 Monkey jumping (trampoline, bell drum): jump up high in order to bet the bell drum hanging above. 2.river & mountain (balance beam, large arch shaped block, and soft blocks): crawl through an arch along a bridge then jump over blocks.
Free group (5 min.)	As the above	Each child chooses a group from these three: 1.+2.+ ball swimming (ball pool).
Closure Review (5 min.)	Confidence, helping, appreciating,	1.Children share their reflections about today's lesson and appraise the performance of others. 2.Teacher appraises children's performance with details described.
Relaxation (3 min.)	Concentration	All in still (music): stay sand ball still on any parts of body.
Planning (2 min.)	Challenge	Looking on the next semester (this semester was ended)

Overall reflection: 1. A cold front was coming. Children seemed to be slower and more quiet than usual. 2. In the activity of drum hitting, the height of bell drum should be able to adjust for individual differences. To some shorter children, the height of the bell drum was too high. 3. Children worked with sand balls work much better in the relaxation time than before.

Observation logs

Five observers were designated for monitoring each of disabled children during six observation sessions. These observation sessions were conducted on Nov. 06, Nov. 13, Nov. 20, Nov.27, Dec. 04, and Dec. 11. A translator coded these observation logs according to the occurrence of five behavior themes. These five themes were concentration, confidence, challenge, helping peers, and appreciating peers. The number of occurrences of behavior themes was calculated by the summing-up intervals which were not necessary continuous, and by the longest continuous intervals which must be continuous. This result was shown as Table 4. Regarding the summing-up intervals, subject X5 demonstrated a great improvement in general. Her improvement was especially apparent in responding to challenge. Regarding the longest continuous intervals, subject X1 behaved concentration behavior in continuous 20 intervals lasting (about 20 minutes) on Nov. 13.

There were 25 summary tables produced by each child and by each behavior theme for illustrating the results of observation. The summary information was shown as Table 16-40.

Table 15

Number of occurrences of behavior themes

		Summing up intervals						The longest continuous intervals					
Date		NOV. 06	NOV. 13	NOV. 20	NOV 27	DEC. 04	DEC. 11	NOV. 06	NOV. 13	NOV. 20	NOV 27	DEC. 04	DEC. 11
X1	Cc	10	21	8	8	12	10	5	20	3	4	4	7
	Cf	4	2	0	2	2	1	3	1	0	2	1	1
	Ch	7	7	2	4	7	15	4	3	1	2	5	4
	H	1	0	0	0	1	0	1	0	0	0	1	0
	A	1	2	0	0	1	3	1	2	0	0	1	1
X2	Cc	14	21	12	13	19	11	6	10	3	4	11	4
	Cf	5	2	0	2	1	0	2	1	0	1	1	0
	Ch	6	9	5	6	7	12	2	4	2	1	3	3
	H	1	0	0	2	0	0	1	0	0	1	0	0
	A	2	0	0	0	1	0	2	0	0	0	1	0
X3	Cc	12	10	7	4	7	8	8	3	2	1	2	3
	Cf	2	6	2	0	0	0	2	2	1	0	0	0
	Ch	3	7	2	2	5	13	2	2	1	2	4	3
	H	3	1	0	2	2	3	2	1	0	1	1	2
	A	0	0	0	0	1	0	0	0	0	0	1	0
X4	Cc	7	17	*	7	7	5	3	7	*	2	3	3
	Cf	5	2	*	1	1	0	3	2	*	1	1	0
	Ch	7	7	*	3	6	10	3	3	*	1	4	3
	H	2	0	*	0	1	6	2	0	*	0	1	2
	A	0	1	*	0	1	4	0	1	*	0	1	1
X5	Cc	*	11	12	0	8	3	*	4	5	0	2	1
	Cf	*	1	3	0	0	0	*	1	1	0	0	0
	Ch	*	3	5	4	3	6	*	1	2	3	2	2
	H	*	0	0	0	0	5	*	0	0	0	0	3
	A	*	0	1	1	0	2	*	0	1	1	0	1

Note 1.Behavior themes: Cc = Concentration, Cf = Confidence,
Ch =Positively responding to challenge,
H =Helping peers, A =Appreciating peers

2." * "=Absence.

3.The total number of observation intervals was thirty in all sessions.

Table 16

Summary of observation logs of X1 regarding the behavior theme of concentration

動 作 教 學 軼 事 記 錄 分 析

一.對象: 昭 源　　二. 行爲主題: 專 注

三.單次時距分析:挑出五次較特殊的例子予以說明.

	概　　述
一.	11/6 老師請小朋友注意看老師的動作並模仿,當老師變換一個動作,小朋友也跟著變換.看看誰最像木頭人? 昭源在這個活動進行時,不但能跟著老師的動作模仿,且動作比其他幼兒持久.
二.	11/13 活動完畢後,昭源進入球池玩耍,用三角錐容器裝球池中的球,裝入,倒出,反覆進行,其他幼兒與他說話也無回應,楊老師將他手中三角錐容器拿走時,昭源向老師要回,老師告知其危險性,昭源仍執意要拿,直到老師也把尙叡手中的三角錐容器拿走,才作罷.
三.	11/20 伸展活動中老師請小朋友伸展雙手呈平衡狀,走在地墊上.昭源自己走自己的,不理會其他幼兒反應,坐回墊上後,老師講解平衡木時,獨自坐在位置上左顧右盼.
四.	11/27 在滑板繞障礙活動中,老師請一幼兒示範,該幼兒示範錯誤,結果昭源立即舉手要示範,昭源示範正確後,微笑回到位子.
五.	12/4 投接球活動中,昭源和一幼兒搶拿裝球的盤子,結果搶輸了,昭源跑到負責另一活動的楊老師前告狀,楊老師一頭霧水,昭源卻不向負責投接球的蔡老師求助,接著回到隊伍中,昭源因插隊和一幼兒起爭執.

四.連續時距分析:以連續出現時距最多的該次教學爲例加以說明.

連續次數	概　　述
20 次	11/13 老師請昭源排隊準備進行丟沙包活動,昭源排隊等待,專注看著小朋友丟沙包,三分鐘過後,和家齊交談一會兒,又看著小朋友丟沙包.輪到昭源時,站著用左手丟沙包很靈活,換右手卻丟不準, 丟完沙包接著走到下一組(平衡盤接球). 昭源坐在平衡盤上轉來轉去練習接球.很專心的接球,完成此活動.走到下一個活動(平衡木),昭源拿著呼拉圈慢慢走在平衡木上,老師叫其伸直雙手,伸直一下便馬上縮回,小心走完平衡木,到球池玩耍. 昭源用三角錐容器裝球池中的球,裝入,倒出,反覆進行,其他幼兒與他說話也無回應, 楊老師將他手中三角錐容器拿走時,昭源向老師要回,老師告知其危險性,昭源仍執意要拿,直到老師也把尙叡手中的三角錐容器拿走,才作罷.

Table 17

Summary of observation logs of X2 regarding the behavior theme of concentration

動 作 教 學 軼 事 記 錄 分 析

一.對象: 貴 卿　　二. 行爲主題: 專 注

三.單次時距分析:挑出五次較特殊的例子予以說明.

	概　　述
一.	11/6 在平衡木活動開始,簡老師講解活動方式時,貴卿右手摸腳趾,眼睛看著老師,當老師問:誰要試試看?貴卿立刻舉起右手!
二.	11/20 在平衡木活動一開始, 老師請幼兒示範,貴卿看前面一幼兒舉手,也跟著舉手,老師請一幼兒示範,貴卿眼睛盯著示範者看,半跪著身,仍舉著右手,接著很專心看著簡老師到示範者示範結束.
三.	11/27 知動遊戲中老師請小朋友聽到音樂做小鳥動作,音樂結束後,平躺在地上,音樂開始響起,其他幼兒自由的學小鳥動作跑動,貴卿只是站在原地看,一動也不動.
四.	12/4 跳床活動時,貴卿靠著欄子笑著看前面幼兒跳床.看著旁邊的幼兒談話,貴卿只是一直旁觀,微笑卻不參與.
五.	12/11 節奏活動進行,貴卿不配合節奏,自己亂拍且頻換動作眼睛不看老師和對面同學,很專注的做自己的動作,不停的變換動作獨自亂拍.

四.連續時距分析: 以連續出現時距最多的該次教學爲例加以說明.

連續次數	概　　述
11 次	12/4 在跳床活動進行至貴卿時,貴卿緊繃的站在跳床上,老師拉著她的手讓她跳一次,接著貴卿雙腳伸直,跳了 10 下,跳完回到位子後,貴卿一直笑著看前面的小朋友跳,第二輪時,貴卿自己伸直腳跳了 15 下,跳完笑著回到位子,接著又笑著看前面幼兒跳床.看著旁邊的幼兒談話,貴卿只是一直旁觀,微笑卻不參與.但很認真看著前面的小朋友跳跳床.

Table 18

Summary of observation logs of X3 regarding the behavior theme of concentration

動 作 教 學 軼 事 記 錄 分 析

一.對象: 峰 諄　　二. 行爲主題: 專 注

三.單次時距分析:挑出五次較特殊的例子予以說明.

	概　　述
一.	11/6 在秋千活動中,峰諄排隊等待,眼睛看著周圍的情形,每當前面幼兒坐在秋千上接中老師丟的圈圈環,峰諄便立即鼓掌,臉上露出笑容,眼睛注視著圈圈環的移動,但嘴巴只發出一.二個模糊音.
二.	11/20 在伸展活動開始,老師請小朋友學超人飛的動作,老師指導峰諄後,峰諄能跟著做動作,雙手往上時會把手交握,接著臉上露出笑容,兩手在旁揮動.
三.	11/27 滑板活動進行時,峰諄咬著手指看小朋友示範,有時摸腳或頭,和尙叡說話並拉尙叡的手打尙叡.蔡老師:峰諄!你都沒注意聽!峰諄停止該動作,又咬著手指看前面示範的小朋友.
四.	12/4 超人操進行時,峰諄很專心看著小朋友示範超人飛,主動拍手鼓掌但不跟著做動作,老師請他隨著音樂跟著大家做"超人飛",音樂停則停止,結果音樂停了,峰諄仍繼續動,老師只好拉住他!
五.	12/11 節奏活動進行,峰諄能配合節奏,自己拍手拍腳.兩人一組玩四拍節奏遊戲,峰諄與姚老師一組,姚老師請他先做動作,老師模仿,峰諄能自己做四拍子的拍手,做小星星的動作.

四.連續時距分析:以連續出現時距數最多的該次教學爲例加以說明.

連續次數	概　　述
8 次	11/6 在平衡木活動進行時,峰諄嘴巴微張的注視前面示範的小朋友,兩分鐘後看一下進來的老師,又注視前面示範的小朋友,看完示範便主動拍手鼓掌,眼睛看著前方,微吐舌,聽老師說話(老師請幼兒回憶平衡木課程),接著排隊準備走平衡木,峰諄眼睛看著前方,微吐舌,走完平衡木回到一旁坐下,老師帶他回平衡木上,用其他方式再走一次.

Table 19

Summary of observation logs of X4 regarding the behavior theme of concentration

動 作 教 學 帙 事 記 錄 分 析

一.對象: 尙 叡　　二. 行爲主題: 專 注

三.單次時距分析:挑出五次較特殊的例子予以說明.

	概　　述
一.	11/6 當老師講解平衡木的活動方式時,尙叡不看老師,只是自顧自的玩自己的衣褲,當老師請一幼兒示範時,尙叡便抬頭,很專注的看著示範的小朋友.
二.	11/13 在丟沙球遊戲活動中,當峰諄在丟沙球時,尙叡坐到前面看峰諄丟,接著輪到尙叡時,第一次丟進,第二.三.四次都未丟進,於是尙叡走到洞洞板前丟,老師請他後退一點,不可太前面,結果,又沒丟進,於是,他還未丟完便無趣的走向峰諄,與峰諄玩呼拉圈.
三.	11/27 平衡木活動進行至尙叡時,尙叡自己走上平衡木,不需老師協助,並且可依指示做前進後退動作,但還不能將眼睛閉上走平衡木.
四.	11/27 滑板活動幼兒示範動作時,尙叡很專注的看著幼兒的示範,當老師解說時,尙叡躺在地上含著手趾看老師,一會兒看咨諭打峰諄的手,於是向老師發出含糊的聲音,似乎在告訴老師~咨諭打峰諄!
五.	12/11 節奏活動進行中,魏阿姨幫尙叡脫下外衣,尙叡拿著脫下的外衣置於腳前認真的折疊,折好後放於一旁後才繼續遊戲.

四.連續時距分析:以連續出現時距數最多的該次教學爲例加以說明.

連續次數	概　　述
7 次	11/13 尙叡看到平衡盤,便自己坐到上面轉圈圈,但尙未輪到他,於是,他被老師叫下來,坐在旁邊看.當峰諄在進行丟沙球活動時,尙叡便走到丟沙球區前坐下看峰諄丟, 接著輪到尙叡時,第一次丟進,第二.三.四次都未丟進,於是尙叡走到洞洞板前丟,老師請他後退一點,不可太前面,結果,又沒丟進,於是,他還未丟完便無趣的走向平衡木區,與峰諄玩呼拉圈.一會兒 便自顧自的拿呼拉圈在身上套來套去,接著拿兩個呼拉圈放在手上,準備進行平衡木活動.

Table 20

Summary of observation logs of X5 regarding the behavior theme of concentration

動 作 教 學 軼 事 記 錄 分 析

一.對象: 咨 諭　　二. 行爲主題: 專 注

三.單次時距分析:挑出五次較特殊的例子予以說明.

	概　　述
一.	11/13 平衡木活動進行至咨諭時, 咨諭拿著呼拉圈走兩回,但身體搖擺不定,手臂不敢依老師指示伸開,很緩慢的前進.
二.	11/20 在伸展活動開始,老師請小朋友學超人飛的動作,老師指導咨諭,輔以手舉高,說: 咨諭飛好高喔! 咨諭將腳往後翹起,對老師說:飛!飛!飛!臉上露出笑容,做出超人飛的動作.
三.	12/4 跳床活動進行時, 咨諭依偎著魏阿姨,很專注的看小朋友跳床,輪到咨諭時, 咨諭無法用兩腳並跳,主要以左腳跳,右腳較無力.在跳床上, 咨諭不穩的跳動,眼睛一直盯著跳床.
四.	12/11 超人操複習活動,咨諭跟著老師做雙腳高舉往上踢的動作,身體有時會搖擺不定,但老師的指令咨諭都有配合.
五.	12/11 節奏活動進行中,老師:1.2.3.拍拍手! 咨諭很認真的跟著老師做節奏動作,從拍手到腳打拍子, 咨諭很專注的看著老師.

四.連續時距分析:以連續出現時距數最多的該次教學爲例加以說明.

連續次數	概　　述
5 次	11/20 在伸展活動開始,老師請小朋友學超人飛的動作,老師指導咨諭,輔以手舉高,說: 咨諭飛好高喔! 咨諭將腳往後翹起,對老師說:飛!飛!飛!臉上露出笑容,做出超人飛的動作.接著,蔡老師舉左手說:丟球!丟高高! 咨諭站起來玩丟球,並且拍魏阿姨的手. 簡老師請小朋友走在地板上所放的繩子上面(彎曲不規則的一條童軍繩),像走獨木橋一般,咨諭要老師牽,不願自己走.老師伸出手趾指引她,咨諭便追著老師的手趾走,然後坐回位子上.

Table 21

Summary of observation logs of X1 regarding the behavior theme of confidence

動 作 教 學 軼 事 記 錄 分 析

一.對象: 昭 源　　二. 行爲主題: 信 心

三.單次時距分析:挑出五次較特殊的例子予以說明.

	概　　述
一.	11/6 老師請小朋友兩人一組,一個人先做動作另一個小朋友跟著模仿. 看看誰最像雙胞胎? 昭源在這個活動進行時,只顧著自己做自己的動作,完全不模仿對方的動作,最後,同伴便跟著昭源做動作.
二.	11/13 在平衡盤上接球活動中,昭源一坐上平衡盤便獨自轉來轉去,並對老師說:老師丟給我! 老師丟給我! 臉上露出快樂的笑容.
三.	11/27 在滑板繞障礙活動中,老師請一幼兒示範,該幼兒示範錯誤,結果昭源立即舉手要示範,昭源示範正確後,微笑回到位子.
四.	12/4 跳床活動進行時,昭源能依老師指示雙腳並跳,很自在的在跳床上跳動,一邊笑一邊跳,跳完回到隊伍中,因爲不按順序排隊,一幼兒叫他到最後面,昭源便跑來跑去.
五.	12/4 平衡木活動進行至昭源時,楊老師尚未要他開始,昭源便自己開始向前走,並對老師說:我會小心的走! 結果,昭源很順利的走完平衡木.

四.連續時距分析:以連續出現時距數最多的該次教學爲例加以說明.

連續次數	概　　述
3 次	11/6 老師請小朋友兩人一組,一個人先做動作另一個小朋友跟著模仿. 看看誰最像雙胞胎? 昭源在這個活動進行時,只顧著自己做自己的動作,完全不模仿對方的動作,經過 2 分鐘後,同伴便跟著昭源做動作. 昭源依然只顧著自己做自己的動作.

Table 22

Summary of observation logs of X2 regarding the behavior theme of confidence

動 作 教 學 軼 事 記 錄 分 析

一.對象: 貴 卿　　二. 行爲主題: 信 心

三.單次時距分析:因爲在全部觀察紀錄中與主題相關的行爲僅出現 4 次,故就以此 4 次的例子予以說明.

	概　　述
一.	11/6 在平衡木活動開始,簡老師講解活動方式時,貴卿右手摸腳趾,眼睛看著老師,當老師問:誰要試試看?貴卿立刻舉起右手!
二.	11/13 在平衡木活動開始, 貴卿雙腳交叉坐,很專心看著簡老師講解活動方式, 當老師問:誰會示範?貴卿立刻舉右手說:我可以!
三.	11/27 伸展活動中,老師請小朋友依老師口令用手指出身體部位並說出該部位名稱,貴卿笑著依指示用手指出屁股/手/腳等部位並說出該部位名稱.
四.	12/4 在伸展活動開始,老師請小朋友學超人飛的動作, 老師問:誰要示範?貴卿立刻舉手.老師請她至前面示範.貴卿做雙手向上伸舉的動作後,笑著回位子.
五.	

四.連續時距分析:以連續出現時距數最多的該次教學爲例加以說明.

連續次數	概　　述
2 次	老師請小朋友注意看老師的動作並模仿,當老師變換一個動作,小朋友也跟著變換.看看誰最像木頭人?貴卿笑著模仿老師的動作, 接著,老師請小朋友兩人一組,一個人先做動作另一個小朋友跟著模仿.看看誰最像雙胞胎?貴卿左手拉著同伴,右手舉起,眼睛看著前方做動作.

Table 23

Summary of observation logs of X3 regarding the behavior theme of confidence

動 作 教 學 軼 事 記 錄 分 析

一.對象: 峰 諄　　二. 行爲主題: 信 心

三.單次時距分析: 因爲在全部觀察紀錄中與主題相關的行爲僅出現 3 次,故就以此 3 次的例子予以說明.

	概　　述
一.	11/6 在秋千活動中,峰諄排隊等待,,臉上露出笑容,眼睛注視著圈圈環的移動,看著小朋友的活動而顯得躍躍欲試,老師請他再等一下.
二.	11/13 在平衡盤上接球活動中,峰諄一坐上平衡盤便露出笑容,老師幫他旋轉數圈後,峰諄笑著伸出手接球. 接中後便到球池區玩.
三.	11/20 在丟沙球遊戲活動中,當峰諄丟沙球丟進呼拉圈後,峰諄笑著拍手,接著笑著回到隊伍.
四.	
五.	

四.連續時距分析:在所有觀察紀錄中,連續出現與本主題相關的行爲的最多時距爲 2,分別出現在兩次教學中.

連續次數	概　　述
2 次	11/6 在秋千活動中,峰諄排隊等待,,臉上露出笑容,眼睛注視著圈圈環的移動,看著小朋友的活動而顯得躍躍欲試,老師請他再等一下. 11/13 在平衡盤上接球活動中,峰諄一坐上平衡盤便露出笑容,老師幫他旋轉數圈後,峰諄笑著伸出手接球.接中後便到球池區玩.

Table 24

Summary of observation logs of X4 regarding the behavior theme of confidence

動作教學軼事記錄分析

一.對象: 尚叡　　二. 行爲主題: 信心

三.單次時距分析: 因爲在全部觀察紀錄中與主題相關的行爲僅出現 4 次,故就以此 4 次的例子予以說明.

	概述
一.	11/6 平衡木活動進行至尚叡時,尚叡自己走上平衡木,不需老師協助,主動走平衡木且與同學爭著往前想再玩一次.
二.	11/13 走向平衡木區,與峰諄玩呼拉圈.一會兒 便自顧自的拿呼拉圈在身上套來套去,接著主動拿兩個呼拉圈放在手上,準備進行平衡木活動.
三.	11/27 滑板活動至尚叡時,尚叡依老師的指示流利的滑著滑板,滑來滑去捨不得起來.
四.	12/4 直木活動輪至尚叡時,尚叡笑的好高興,抱著直木捨不得下來直到老師制止抱他下來才放手.

四.連續時距分析: 以連續出現時距數最多的該次教學爲例加以說明.

連續次數	概述
3 次	11/6 直木活動輪至尚叡時,尚叡笑的好高興,很正確的依老師指示玩著.接著進行橫木(秋千)活動(趴在橫木上接老師丟過來的圈圈),當一幼兒輪到玩橫木時,尚叡跑至前拉橫木的繩子,迫不及待的想玩,老師請他等一下!接著輪到尚叡, 尚叡很正確的依老師指示做動作,當尚叡接到圈圈時,他開心的笑著.

Table 25

Summary of observation logs of X5 regarding the behavior theme of confidence

動 作 教 學 軼 事 記 錄 分 析

一.對象: 咨 諭　　二. 行爲主題: 信 心

三.單次時距分析: 因爲在全部觀察紀錄中與主題相關的行爲僅出現 2 次,故就以此 2 次的例子予以說明.

	概　　述
一.	11/13 在丟沙球遊戲活動中,咨諭直接走向前投入,魏阿姨重新示範一次,結果咨諭仍直接走向前投入,並且五球皆投進.
二.	11/20 在伸展活動開始,老師請小朋友學超人飛的動作,老師指導咨諭,輔以手舉高,說: 咨諭飛好高喔! 咨諭將腳往後翹起,對老師說:飛!飛!飛!臉上露出笑容,做出超人飛的動作.

四.連續時距分析:在所有觀察紀錄中,與本主題相關的行爲沒有連續出現,故無法分析.

Table 26

Summary of observation logs of X1 regarding the behavior theme of positively responding to challenge

動作教學軼事記錄分析

一.對象: 昭源　　二. 行爲主題:積極接受挑戰

三.單次時距分析:挑出五次較特殊的例子予以說明.

	概　　述
一.	11/6 老師請昭源示範平衡木動作,昭源很興奮的爬上平衡木,很小心的慢慢前進,害怕掉下來,所以橫著身走,而非直著身向前走.
二.	11/13 伸展活動中老師請小朋友伸展雙手動動,昭源緩慢的伸直手,老師請小朋友躺下再坐起,結果昭源躺下要起來時卻坐不起來.
三.	11/20 伸展活動中老師請小朋友伸展雙手呈平衡狀,一直線走在地墊上.昭源自己走自己的,不理會其他幼兒反應,然後走回墊上坐下.
四.	11/27 簡老師請小朋友自由跑動,當老師拍鈴鼓 3 下便停止不動,結果昭源跟著其他幼兒跑來跑去,當老師拍鈴鼓 3 下時,昭源看到其他幼兒停止不動才停下動作.
五.	12/4 在丟沙球遊戲活動中,昭源輕鬆的丟沙球丟進呼拉圈,連續幾次都投進,玩的很開心.

四、連續時距數分析:以連續出現時距數最多的該次教學爲例加以說明.

連續次數	概　　述
5 次	12/4 在丟沙球遊戲活動中,昭源輕鬆的丟沙球丟進呼拉圈,連續幾次都投進,玩的很開心.三分鐘投完後換昭源拿呼拉圈讓下一位幼兒投,昭源拿著呼拉圈貼在臉頰旁,很開心的讓下一位幼兒丟沙球.

Table 27

Summary of observation logs of X2 regarding the behavior theme of positively responding to challenge

動 作 教 學 軼 事 記 錄 分 析

一.對象: 貴 卿　　二. 行爲主題:積極接受挑戰

三.單次時距分析:挑出五次較特殊的例子予以說明.

	概　　述
一.	11/6 在橫木(秋千)活動輪至貴卿,貴卿俯臥橫木,雙手拉著橫木的繩子,老師說:手手往前伸出來!貴卿笑著伸出右手接老師丟來的圈圈.
二.	11/13 在平衡盤上接球活動中,貴卿坐上平衡盤便雙腳交叉坐,抓著兩旁的手把搖晃著,主動伸出手接老師丟來的球.
三.	11/20 伸展活動中老師請小朋友伸展雙手呈平衡狀,一直線走在地墊上.貴卿伸展雙手,歪歪斜斜的走,眼睛一直盯著地墊.
四.	12/4 老師請幼兒隨音樂自由跑動,音樂停止時,便立即停止不動.當音樂響起,貴卿隨音樂自由跑動,音樂停止時,貴卿與繪存手碰手停止不動.
五.	12/11 節奏活動進行,貴卿無法配合音樂做老師指定的節奏,自己亂拍且頻換動作,眼睛不看老師和對面同學,很專注的做自己的動作,不停的變換動作獨自亂拍.

四.連續時距分析:以連續出現時距數最多的該次教學爲例加以說明.

連續次數	概　　述
4 次	11/13 在平衡盤上接球活動中,貴卿坐上平衡盤便雙腳交叉坐,抓著兩旁的手把搖晃著,主動伸出手接老師丟來的球,接到球後,貴卿坐到旋轉盤上,用手推地面,讓旋轉盤轉圈.接著伸手接老師丟來的球,接到球後又讓旋轉盤轉一圈才下來.

Table 28

Summary of observation logs of X3 regarding the behavior theme of positively responding to challenge

動 作 教 學 軼 事 記 錄 分 析

一.對象: 峰 諄　　二. 行爲主題:積極接受挑戰

三.單次時距分析:挑出五次較特殊的例子予以說明.

	概　　述
一.	11/6 在橫木(秋千)活動中,峰諄排隊等待, ,臉上露出笑容,眼睛注視著圈圈環的移動,看著小朋友的活動而顯得躍躍欲試,老師請他再等一下.
二.	11/13 在機器人伸展操中,峰諄看看老師,又看看其他小朋友,然後跟著老師做手腳的伸展動作,嘴巴喃喃自語!
三.	11/20 在丟沙球遊戲活動中,當峰諄丟沙球丟進呼拉圈後,峰諄笑著拍手,接著笑著回到隊伍.
四.	11/27 在滑板繞障礙活動中,峰諄一開始便快速滑了一圈,滑到斜坡旁,卻沒繞過障礙物,老師請他重新一次,結果依然快速滑了一圈,滑到斜坡旁,並把障礙物推開.
五.	12/11 在平衡木活動中,峰諄爬上平衡木,很小心的慢慢前進,害怕掉下來,所以橫著身走,而非直著身向前走.老師拉著他的手走過,再回到位子.

四.連續時距分析:以連續出現時距數最多的該次教學爲例加以說明.

連續次數	概　　述
4 次	12/4 超人操進行時,峰諄很專心看著小朋友示範超人飛,主動拍手鼓掌但不跟著做動作,老師請他隨著音樂跟著大家做"超人飛",音樂停則停止,結果音樂停了,峰諄仍繼續動,老師只好拉住他!

Table 29

Summary of observation logs of X4 regarding the behavior theme of positively responding to challenge

動 作 教 學 軼 事 記 錄 分 析

一.對象: 尚 叡　　二. 行爲主題:積極接受挑戰

三.單次時距分析:挑出五次較特殊的例子予以說明.

	概　　述
一.	11/6 平衡木活動進行至尚叡時,尚叡自己走上平衡木,不需老師協助,主動走平衡木且與同學爭著往前想再玩一次.
二.	11/13 伸展活動中,尚叡跟著老師做動作,但只做一下便看著旁邊的人,當大家躺下把腳抬高,尚叡看到也躺下把腳抬高.
三.	11/27 超人操進行時,尚叡專心的學老師"超人側飛",老師稱讚他"尚叡做的很好",尚叡則看看老師.面無表情!
四.	12/4 跳床活動進行時,老師問:尚叡,要不要玩? 尚叡完全依老師指示在跳床上彈跳起來拍鈴鼓,玩兩次後便跑走了.
五.	12/11 老師放音樂請小朋友隨音樂學超人飛,尚叡跳動著身體,看到咨諭站在原地,他便主動拉咨諭的手,帶著咨諭跑動.

四.連續時距分析:以連續出現時距數最多的該次教學爲例加以說明.

連續次數	概　　述
4 次	12/4 超人操複習活動. 老師放音樂請小朋友隨音樂學超人飛,音樂停止則靜止不動,音樂一開始,尚叡努力擺動著上身,第一次音樂停止時,尚叡仍自己搖擺,沒有停止,到第二次音樂停止時,尚叡才停止動作等音樂開始才跑動接著尚叡都能配合音樂動靜,一直到第四次音樂停止,尚叡因正追著昱誠跑而來不及停止而面朝下的衝倒在橫木上.

Table 30

Summary of observation logs of X5 regarding the behavior theme of positively responding to challenge

動 作 教 學 軼 事 記 錄 分 析

一.對象: 咨 諭　　二. 行爲主題:積極接受挑戰

三.單次時距分析: 因爲在全部觀察紀錄中與主題相關的行爲僅出現 2 次,故就以此 2 次的例子予以說明.

	概　　述
一.	11/13 在丟沙球遊戲活動中,咨諭直接走向前投入,魏阿姨重新示範一次,結果咨諭仍直接走向前投入,並且五球皆投進.
二.	11/20 在伸展活動開始,老師請小朋友學超人飛的動作,老師指導咨諭,輔以手舉高,說: 咨諭飛好高喔! 咨諭將腳往後翹起,對老師說:飛!飛!飛!臉上露出笑容,做出超人飛的動作.
三.	

四.連續時距分析:以連續出現時距數最多的該次教學爲例加以說明.

連 續 次 數	概　　述
3 次	11/27 在伸展活動開始,老師請小朋友頭頂地板,魏阿姨指導咨諭,咨諭頭頂地板,不久,咨諭做小鳥飛的動作,跑來跑去.接著跟著老師的指示做肢體伸展動作(右手右腳碰地/右耳碰地), 魏阿姨指導咨諭,咨諭做完便滾來滾去.

Table 31

Summary of observation logs of X1 regarding the behavior theme of helping peers

動 作 教 學 軼 事 記 錄 分 析

一.對象: 昭 源　　二.行爲主題: 主動輔助同伴

三.單次時距分析: 因爲在全部觀察紀錄中與主題相關的行爲僅出現 2 次,故就以此 2 次的例子予以說明.

	概　　述
一.	11/6 老師請昭源示範平衡木動作,昭源很興奮的爬上平衡木,很小心的慢慢前進,走完平衡木回來便拍下一位幼兒的頭,提醒換到他了!
二.	12/4 昭源上完廁所至洗手台時,邊洗手邊對旁邊的幼兒說:水好冷!你摸摸看! 幼兒回答說:真的好冷喔!

四.連續時距分析:在所有觀察紀錄中,與本主題相關的行爲沒有連續出現,故無法分析.

Table 32

Summary of observation logs of X2 regarding the behavior theme of helping peers

動 作 教 學 軼 事 記 錄 分 析

一.對象: 貴 卿　　二.行爲主題: 主動輔助同伴

三.單次時距分析: 因爲在全部觀察紀錄中與主題相關的行爲僅出現 2 次,故就以此 2 次的例子予以說明.

	概　　述
一.	11/6 當老師講解模仿動作遊戲時,尙叡跑到前去碰前面小朋友的手,貴卿走到尙叡旁說:不要!!尙叡便走回位子.
二.	11/27 在超人操活動進行中,前面小朋友往後退時不小心倒在貴卿身上,貴卿說:不要弄到我!!
三.	
四.	
五.	

四.連續時距分析:在所有觀察紀錄中,與本主題相關的行爲沒有連續出現,故無法分析.

Table 33

Summary of observation logs of X3 regarding the behavior theme of helping peers

動 作 教 學 軼 事 記 錄 分 析

一.對象: 峰 諄　　二.行爲主題: 主動輔助同伴

三.單次時距分析:挑出五次較特殊的例子予以說明.

	概　　述
一.	11/6 在橫木(秋千)活動中,峰諄排隊等待,,臉上露出笑容,眼睛注視著圈圈環的移動,看到小朋友接到圈圈主動拍手鼓掌.
二.	11/13 在平衡板遊戲中,峰諄坐著等待,歪著頭看四周的同學,魏阿姨與他說話,峰諄笑著伸手摸摸在旁的咨諭.
三.	11/27 在複習超人操時,咨諭關情緒,峰諄叫她坐好.眼睛看著咨諭.
四.	12/4 在超人操進行時,峰諄能注意看小朋友示範超人飛的動作,並主動鼓掌拍手,但不會跟著做動作.
五.	12/11 在節奏活動中,峰諄和尙叡一組,峰諄主動拉起尙叡的手說:拍手!拍手!尙叡跟著拍手打節奏.

四.連續時距分析:在所有觀察紀錄中,連續出現與本主題相關的行爲的最多時距爲 2,分別出現在兩次教學中.

連續次數	概　　述
2 次	11/6 在橫木(秋千)活動中,峰諄排隊等待,,臉上露出笑容,眼睛注視著圈圈環的移動,看到小朋友接到圈圈主動拍手鼓掌. 12/11 在節奏活動中,峰諄和尙叡一組,峰諄主動拉起尙叡的手說:拍手!拍手! 尙叡跟著拍手打節奏.

Table 34

Summary of observation logs of X4 regarding the behavior theme of helping peers

動 作 教 學 軼 事 記 錄 分 析

一.對象: 尙 叡　　二.行爲主題: 主動輔助同伴

三.單次時距分析: 因爲在全部觀察紀錄中與主題相關的行爲僅出現 3 次,故就以此 3 次的例子予以說明.

	概　　述
一.	11/6 在雙胞胎模仿動作遊戲中,尙叡主動拉起同伴的手,並與同伴拉手晃動.跟著對方做動作.
二.	12/4 跳床活動進行時,咨諭鬧情緒,魏阿姨安撫著咨諭,尙叡說:妹妹!妹妹!靠近拍拍咨諭,魏阿姨說:不要吵妹妹!尙叡一臉茫然.
三.	12/11 老師放音樂請小朋友隨音樂學超人飛,尙叡跳動著身體,看到咨諭站在原地,他便主動拉咨諭的手,帶著咨諭跑動.
四.	

四.連續時距分析:在所有觀察紀錄中,連續出現與本主題相關的行爲的最多時距爲 2,分別出現在兩次教學中.

連續次數	概　　述
2 次	11/6 在雙胞胎模仿動作遊戲中,尙叡主動拉起同伴的手,並與同伴拉手晃動.跟著對方做動作. 12/11 老師放音樂請小朋友隨音樂學超人飛,尙叡跳動著身體,看到咨諭站在原地,他便主動拉咨諭的手,帶著咨諭跑動.

Table 35

Summary of observation logs of X5 regarding the behavior theme of helping peers

動 作 教 學 軼 事 記 錄 分 析

一.對象: 咨 諭　　二.行爲主題: 主動輔助同伴

三.單次時距分析: 因爲在全部觀察紀錄中與主題相關的行爲僅出現 2 次,故就以此 2 次的例子予以說明.

	概　　述
一.	12/11 在音樂節奏遊戲中,咨諭跟著老師拍著手,尙叡過來抓著咨諭的手,咨諭拍拍尙叡,接著咨諭很累的抱著尙叡,尙叡拍拍咨諭,但咨諭越抱越緊,老師拉開兩人說:"好了!"摸摸兩人的臉,但咨諭又緊抱著尙叡,最後才分開.
二.	12/11 老師指導幼兒打節奏時,咨諭看著老師拍著手,尙叡正在旁折衣服, 咨諭便拍著尙叡說:尙叡快點! 尙叡快點!
三.	
四.	

四.連續時距分析:以連續出現時距數最多的該次教學爲例加以說明.

連續次數	概　　述
3 次	12/11 在音樂節奏遊戲中,咨諭跟著老師拍著手,尙叡過來抓著咨諭的手,咨諭拍拍尙叡,接著咨諭很累的抱著尙叡,尙叡拍拍咨諭,但咨諭越抱越緊,老師拉開兩人說:"好了!"摸摸兩人的臉,但咨諭又緊抱著尙叡,最後才分開.

Table 36

Summary of observation logs of X1 regarding the behavior theme of appreciating peers

動 作 教 學 軼 事 記 錄 分 析

一.對象: 昭 源　　二.行爲主題: 合宜回饋同伴

三.單次時距分析: 因爲在全部觀察紀錄中與主題相關的行爲僅出現 4 次,故就以此 4 次的例子予以說明.

	概　　述
一.	11/6 昭源在平衡木活動排隊中,不小心踩到同伴的腳,同伴要他道歉,昭源說:對不起!同伴說:沒關係!下次不要踩到我!
二.	11/13 在丟沙球遊戲活動中,昭源邊看小朋友丟沙包邊和旁邊的家齊說話. (兩人笑著交談,不知談話內容)
三.	12/4 在玩直木活動時,昭源邊看前面幼兒玩直木邊與旁邊的同伴笑著說話.(不知談話內容)
四.	12/11 節奏遊戲進行時,昭源只是看著其他幼兒做動作,不會主動模仿或創作.要其他人催他,他才會跟著做動作.

四.連續時距分析:以連續出現時距數最多的該次教學爲例加以說明.

連續次數	概　　述
2 次	11/13 在丟沙球遊戲活動中,昭源邊看小朋友丟沙包邊和旁邊的家齊說話. (兩人笑著交談約 2 分鐘,不知談話內容)

Table 37

Summary of observation logs of X2 regarding the behavior theme of appreciating peers

動 作 教 學 軼 事 記 錄 分 析

一.對象: 貴 卿　二.行爲主題: 合宜回饋同伴

三.單次時距分析: 因爲在全部觀察紀錄中與主題相關的行爲僅出現 2 次,故就以此 2 次的例子予以說明.

	概　　述
一.	11/6 當老師講解雙胞胎模仿動作遊戲時, 貴卿將左手與同伴拉起來,右手高舉,眼睛看著老師.尙叡伸手拉貴卿頸上的項鍊,貴卿將項鍊拉出來給尙叡看.
二.	12/4 在超人操活動進行中,老師請幼兒隨著音樂自由跑動當音樂停止時,便立即站著不動.當音樂停止時,貴卿與繪存手碰手停止不動.
三.	
四.	

四.連續時距分析:以連續出現時距數最多的該次教學爲例加以說明.

連續次數	概　　述
2 次	11/6 當老師講解雙胞胎模仿動作遊戲時, 貴卿將左手與同伴拉起來,右手高舉,眼睛看著老師.尙叡伸手拉貴卿頸上的項鍊,貴卿將項鍊拉出來給尙叡看.

Table 38

Summary of observation logs of X3 regarding the behavior theme of appreciating peers

動 作 教 學 軼 事 記 錄 分 析

一.對象: 峰 諄　　二.行爲主題: 合宜回饋同伴

三.單次時距分析: 因爲在全部觀察紀錄中與主題相關的行爲僅出現 1 次,故就以此 1 次的例子予以說明.

	概　　述
一.	12/4 在等待跳床活動進行時,峰諄與尙叡講話並玩"剪刀.石頭.布!"遊戲. 每次峰諄喊"石頭",尙叡便伸出布,兩人玩著手指!
二.	

四.連續時距分析:在所有觀察紀錄中,與本主題相關的行爲沒有連續出現,故無法分析.

Table 39

Summary of observation logs of X4 regarding the behavior theme of appreciating peers

動 作 教 學 軼 事 記 錄 分 析

一.對象: 尚 叡　　二.行爲主題: 合宜回饋同伴

三.單次時距分析: 因爲在全部觀察紀錄中與主題相關的行爲僅出現 3 次,故就以此 3 次的例子予以說明.

	概　　述
一.	11/13 伸展活動中,尚叡跟著老師做動作,但只做一下便看著旁邊的人,當大家躺下把腳抬高,尚叡看到也躺下把腳抬高.當大家起來時,尚叡依舊躺在地上,直到峰諄叫他才爬起來.
二.	12/4 在玩直木活動時,一邊等待一邊與峰諄玩"剪刀.石頭.布!"的遊戲,每次峰諄喊"石頭",尚叡便伸出布,和峰諄玩著手指!
三.	12/11 在老師講解音樂節奏活動過程時, 咨諭很累的抱著尚叡,尚叡拍拍咨諭,但咨諭越抱越緊,結果尚叡拉開咨諭的手.
四.	

四.連續時距分析:在所有觀察紀錄中,與本主題相關的行爲沒有連續出現,故無法分析.

Table 40

Summary of observation logs of X5 regarding the behavior theme of appreciating peers

動 作 教 學 軼 事 記 錄 分 析

一.對象: 咨 諭　　二.行爲主題: 合宜回饋同伴

三.單次時距分析: 因爲在全部觀察紀錄中與主題相關的行爲僅出現 4 次,故就以此 4 次的例子予以說明.

	概　　述
一.	11/20 在超人操進行中,看完小朋友示範超人飛,對老師說:"好棒喔!!".
二.	11/27 在等待滑板遊戲時,咨諭與魏阿姨一起唱:"兩隻老虎",接著,峰諄也加入.
三.	12/11 在節奏遊戲進行兩人互相模仿節奏時,尙叡:拍拍手!1.2.3.4! 尙叡抓著咨諭的手,咨諭拍手說:1.2.3.4!
四.	12/11 老師指導幼兒打節奏時,咨諭看著老師拍著手,尙叡正在旁折衣服, 咨諭便拍著尙叡說:尙叡快點! 尙叡快點!尙叡放好衣服後,咨諭與尙叡互相拍拍手.
五.	

四.連續時距分析:在所有觀察紀錄中,與本主題相關的行爲沒有連續出現,故無法分析.

Performance in the MEPA

The performance of 15 subjects in the Movement Education Program Assessment (MEPA), as a pretest and a posttest respectively, was presented in the percentage of passing assessment items of each category. The age range of subjects just fitted into the sixth and the seventh division of the MEPA, therefore, both of these divisions were administered. This result of percentage of success was shown as Table 41-42.

Table 41

Percentage of success of the sixth division in the MEPA

Sixth division 49~60 months level	Sensory-motor (%)		Language-sociality (%)		Flexibility (%)		Strength (%)	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
X1	75	100	100	-	83	83	75	75
X2	50	100	50	100	67	67	75	75
X3	25	75	25	25	33	50	50	50
X4	25	75	25	50	50	83	50	100
X5	50	50	25	50	0	16	0	0
Cp1	100	-	75	75	67	83	50	75
Cp2	100	-	100	-	100	-	100	-
Cp3	100	-	100	-	83	100	75	100
Cp4	100	-	100	-	100	-	100	-
Cp5	100	-	100	-	100	-	100	-
Ct1	100	-	100	-	100	-	100	-
Ct2	100	-	75	100	100	-	100	-
Ct3	75	100	100	-	100	-	100	-
Ct4	100	-	100	-	100	-	100	-
Ct5	100	-	100	-	100	-	100	-

Note. " X " = Experiment group," Cp " = Compare group," Ct " = Control group.

Table 42

Percentage of success of the seventh division in the MEPA

Seventh division 61~72 months level	Sensory-motor (%)		Language-sociality (%)		Flexibility (%)		Strength (%)	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
X1	100	-	100	-	100	-	100	-
X2	80	100	25	50	100	-	100	-
X3	0	0	0	0	0	0	0	0
X4	20	40	25	25	25	25	50	50
X5	0	0	25	50	25	25	0	0
Cp1	100	-	75	100	100	-	100	-
Cp2	100	-	100	-	100	-	100	-
Cp3	100	-	100	-	100	-	100	-
Cp4	100	-	75	75	100	-	100	-
Cp5	100	-	100	-	100	-	100	-
Ct1	100	-	75	75	100	-	100	-
Ct2	100	-	50	100	100	-	100	-
Ct3	75	75	100	-	100	-	100	-
Ct4	100	-	50	100	100	-	100	-
Ct5	100	-	75	100	100	-	100	-

Note. " X " = Experiment group, " Cp " = Compare group," Ct " = Control group.

CHAPTER V

DISCUSSION, CONCLUSION, & RECOMMENDATIONS

Discussion

Discussion was addressed with topics of structure of lesson plan, observation logs, and performance in the MEPA.

Structure of lesson plan

The three basic stages of lesson plans were developed as beginning, main activity, and closure (see Table 3-14). Within the stage of beginning, a warm-up and an initiation were conducted. Within the stage of main activity, and introduction, a group practice, and a free group were conducted. Within the stage of closure, a relaxation, a review, and a planning were conducted.

Both in the stages of beginning and the closure, the behavior themes elaborated was concentration, helping peers, and appreciating peers. The author believed that any effective learning needs to maintain learners' concentration during the whole process, thus, the theme of concentration went on through an entire session. Both in the warm-up and relaxation steps, stretch or body awareness with music were excellent activities about reaching a concentration status.

The themes of helping peers and appreciating peers were emphasized in the steps of initiation and review, which were especially significant in an inclusive group. In order to experience the peer relation with helping and appreciation, activities in the form of individual, two-person, and more than two-person were introduced. Friendly expressive language among peers was encouraged.

Both at the beginning of the main activity, and the end of the closure, the behavior theme of positively responding to challenge was emphasized. Although children's competence was varied in this inclusive class, the author challenged each child in his/her own level. Details of each task were explained with the demonstration of volunteer peers. The instructor must always break a task into simple segments in order to make sure the demonstration will be successful. After a successful demonstration was presented, most children felt confidence and ready to challenge this task.

In the stage of main activity, movement-related performance was practiced. Bowling relay, jumping over bricks, blind passing, and ball play were activities with simple equipment. Cruise, horse riding, turning bear, and monkey jumping might require special equipment. These activities were popular and beneficial to the development of sensory-motor, flexibility, and strength.

The language-sociality might be developed while group members provided oral feedback to the ones who were challenging their tasks. The reflection, which the instructor recorded at the bottom of each lesson plan, provided references for the design of next sessions.

Observation logs

Because too many observers might intervene the effectiveness of learning, only children in the experiment group were designated to one observer by each. Observation logs were recorded with the observation technique of interval recording. Five behavior themes were utilized to code children's behavior. These themes were the same as the behavior objectives of this PE curriculum. Within an interval, a child might behave five themes simultaneously, or he/she might behave none of them. The number of summing up intervals was calculated by the frequency of each theme occurred in one session by each child. Numbers of continuous intervals were calculated by the frequency of a theme occurred continuously in one session by each child. The biggest number of the continuous intervals of each child in a session was used to represent the longest continuous intervals (see Table 15). As shown in the summaries of observation logs, some special contents of observation logs were edited by behavior themes for each child (see Table 16-40). According to Table 15, the difference of occurrences between the sum of the first twice observation (Nov.06 and 13) and the sum of the last twice (Dec.04 and 11) were compared in order to determine whether a child had made improvement (Table 43-44). No matter in the case of summing-up intervals or the longest continuous intervals, children in the experiment group improved the most on the theme of challenge. The number of children made improvement on helping and appreciating peers did not exceed a half. Concentration and confidence were not improved as much as other behavior themes. The subjects X5 made improvement on challenge, helping, and appreciating peers.

Table 43

Improvement on behavior themes by child (by summing up intervals)

Subject	Concentration	Confidence	Challenge	Helping	Appreciating
X1	-	-	+	-	+
X2	-	-	+	-	-
X3	-	-	+	-	-
X4	-	-	+	-	-
X5	-	-	+	+	+

Note. "-": No improvement. "+": Making improvement.

Table 44

Improvement on behavior themes by child (by the longest continuous intervals)

Subject	Concentration	Confidence	Challenge	Helping	Appreciating
X1	-	-	+	-	-
X2	-	-	-	-	-
X3	-	-	+	-	-
X4	-	-	+	+	+
X5	-	-	+	+	+

Note. "-": No improvement. "+": Making improvement.

Performance in the MEPA

Percentages of passing items of the Movement Education Program Assessment (MEPA) were produced by four categories for each subject (see Table 41, 42). The number of children making improvement between posttest and pretest using the MEPA was counted as Table 45. The number of children reached 100% of success in the MEPA was shown in Table 46. Most children in both of the compare group and the control group achieved 100% of success in the MEPA. It indicated that the MEPA was appropriate for the developmental level of children in this age. About children in the experiment group, although less than half of them reached 100% of success in the MEPA (see Table 46), they had made apparent improvement according

to the data presented in Table 45. Within the sixth division of the MEPA, all children in the experiment group improved in categories of sensory-motor and language-sociality. In addition, in the seventh division, about half of children in the experiment group made improvement.

Table 45

Number of children making improvement in the MEPA

Division	Group	Sensory-motor	Language-sociality	Flexibility	Strength (%)
Sixth division	X	5	5	3	1
	Cp	5	5	5	5
	Ct	5	5	5	5
Seventh division	X	3	3	2	2
	Cp	5	4	5	5
	Ct	5	4	5	5

Note. 1." X " = Experiment group, " Cp " = Compare group," Ct " = Control group.
2.Children achieving 100% in the pretest were automatically counted as making improvement in the posttest.

Table 46

Number of children reached 100% of success of the MEPA

Division	Group	Sensory-motor	Language-sociality	Flexibility	Strength (%)
Sixth division	X	2	2	0	1
	Cp	5	4	4	4
	Ct	5	5	4	5
Seventh division	X	2	1	2	2
	Cp	5	4	5	5
	Ct	5	4	5	5

Note. " X " = Experiment group, " Cp " = Compare group," Ct " = Control group.

Conclusion

Conclusion was focused on curriculum development and observation methods. The contents of curriculum development included steps of value, conceptual framework, objectives, implementation, and assessment.

Curriculum development

Value. Recalling the individual /environment paradigm aforementioned in Chapter two, the emphasis of the study was not only focused on individual movement-related skills mainly focused on individuals but also interactions among peers and the outside environments. In general, the theoretical basis of the curriculum developed in the study incorporated body awareness regarding one-self and space / time awareness regarding others and environments.

Conceptual framework. Concepts related to the following dimensions should be defined in order to clarity approaches of a PE program. These dimensions included (a) categories of movement, (b) content areas of physical education, (c) movement concepts of movement education, (d) phases and stages of motor development, (e) levels and stages of movement skill learning, (f) components of physical fitness, and (g) styles of teaching.

Objectives. In this study, movement-related performance and learning behaviors were viewed as the same importance. Regarding movement-related performance, categories of sensory-motor, language-sociality, flexibility, and strength were addressed.

Skills of locomotion in horizontal or vertical directions, stability in motion or in still posture, and manipulation with instrument or without instrument were introduced to address the category of sensory-motor. Exercises of muscular strength and endurance, cardiovascular efficiency, accordance, agility, and balance were introduced to address the component of flexibility and strength. The step of introduction in the main activity stage and the step of review in the closure stage provided the opportunity for receptive language and expressive language. Children were always stimulated to communicate with teachers and peers. Interpersonal relationship was addressed with group activities.

The positive learning behaviors were especially elaborated to emphasize the relationship with peers or environments in this study. These behavior themes were emphasized through each entire session including circumstances of learning with oneself or with a group. In an inclusive program, the behavior themes of

confidence, helping peers, and appreciating peers were usually emphasized. In addition to these three behavior themes, the themes of concentration and positively responding to challenge were proposed in the curriculum. With the emphasis of concentration and positively responding to challenge, the standard of deciding whether making improvement or not was varied by each individual's competence level. All children, including disabled and typical peers, were encouraged to challenge themselves.

Implementation.

A. Structure of Lesson plan. The structure of lesson plans developed in this study produced a fluent and complete learning process. The format illustrated in Table 47 was adopted from those lesson plans implemented in this program (Table 3-14). The learning process proceeded along the behavior themes of concentration, helping and appreciating peers, confidence, and positively responding to challenge, then took a backward direction through confidence, helping and appreciating peers, return to the starting point of concentration. The last step of planning elicited children's expectation about the next session. The objectives of movement-related performance and positive learning behaviors were incorporated in the structure of lesson plans.

B. Instruction methods. Encouragement and authentic feedback were proposed to each child in the whole process of instruction whenever it was possible. In order to encourage children positively responding to challenge, the demonstration was opened for every one who was willing to try it. The author appraised not only the movement performance but also the courage of the child who was doing his/her demonstration. There were three basic principles when implementing this program: playfulness, convenient, and safe. Firstly, children were learning through playful activities. Secondly, all activities utilized the most convenient, simple, and common pieces of equipment which were available in this kindergarten. Thirdly, the design of lesson plans followed the rule of safety.

Assessment--Performance of subjects. The performance of subjects can be presented in qualitative and quantitative approaches respectively. In qualitative approach, most of the children in experiment group made improvement on behavior themes of positively responding to challenge. Regarding helping peers and appreciating peers, some of them had made improvement. There was no evidence found about improvement made on concentration and confidence.

Table 47

Suggested lesson plan format for inclusive PE lessons

Lesson plan Date:

Procedure (time)	Theme (behavior / movement)	Activity (materials) & method
Beginning Warm-up (5 min.)	Concentration	Stretch / Body awareness (music)
Initiation (5 min.)	Helping and appreciating	Individual activity Two-person activity More than two-person activity
Main activity Introduction (5 min.)	Confidence, Challenge	Introduce the challenging tasks of each activity for today with the demonstration of volunteers.
Group practice (20 min.)	Sensory-motor, Language-sociability, Flexibility, Strength	1.Group Ⅰ : 2.Group Ⅱ :
Free group (5 min.)	As the above	Children have the freedom to choose either continuing to challenge the above two activities or enjoying their ball pool.
Closure Review (5 min.)	Confidence, helping, appreciating,	1.Children share their reflections about today's lesson and appraise the performance of others. 2.Teacher appraises children's performance with details described.
Relaxation (3 min.)	Concentration	Stretch / body awareness (music)
Planning (2 min.)	Challenge	Discuss what to challenge in the next lesson

Overall reflection:

Note. 1. Behavior theme: concentration, confidence, positively responding to challenge, helping peers, and appreciation peers.

2. Movement theme: sensory-motor, language-sociability, flexibility, and strength.

In quantitative approach, children in the compare group made improvement on their movement-related performance as good as the control group after the conduction of this inclusive PE program. More than half of children in the experiment group made improvement on sensory-motor, and language-sociality. Generally, the inclusive PE program developed in this study helped children in a diverse class achieving movement–related performance as good as children in a regular class.

Observation methods

The accuracy of data collection is important for the value of a research. In this study, the recording of observation intervals, the coding of these logs, and the administration of the MEPA were all required in high level of observation accuracy.

In order to be as accurate as possible, not only the whole process of experiment sessions were video taped but also each child of the experiment group was designated to one trained observer for recording the child's behavior.

The work of translation and coding of these observation logs was reviewed by two translators. The observation logs were coded into a summing up interval aspect and a continuous interval aspect. With the summing up aspect, the total occurrences of each behavior theme were counted. With the continuous aspect, the analysis of a child's tendency of continuousness of each behavior theme became possible. The administration of the MEPA was conducted individually. Without restrict time limit, observers were allowed to provide possible initiations to each child in order to help this child demonstrated his/her real competence level.

Recommendations

According to the discussion of results and conclusion, there were some further thoughts about the future development of early childhood inclusion practices and curriculum design. Recommendations regarding teacher training and incorporated-subjects teaching were proposed as following.

Teacher training.

This proposed inclusive PE program was a easy implementing one because the instruction methods used in this program can be suitable in most groups, and the equipment and facility needed can be easily obtained, too. However, the understanding about each child with his/her special needs would be a critical factor

in deciding whether successful or not in implementing this inclusive program. If teachers in an inclusive group had their in-service training related to instruction methods with different disability conditions, it would be easier to take care of children's diverse needs.

Buysse, Wesley, & Keyes (1998) noted that early childhood program quality barriers included class size, teacher-child ratios, personnel training for both child care staff and specialists, inadequate classroom facilities, and lack of teacher planning time. However, personnel training and preparation of general early childhood educators and specialists was perhaps the single most prominent barrier to inclusion that has emerged from previous research.

Odom & Diamond (1998) proposed that professional training is an important dimension of programs for all young children. In their national survey, Wolery, Martin, Schroeder, Huffman, Venn, Holcombe, Brookfield & Fleming (1994a) found that teachers in early childhood inclusive programs had training primarily in early childhood education, the majority had a bachelor's degree, and special education professionals were often not employed directly by inclusive programs. In their survey of NAEYC accredited programs, McDonnell, Brownell & Wolery (1997) found similar results.

In Taiwan, there were usually one teacher with special education qualification, and the other one with regular education qualification in an inclusion class. Both of them need in-service training but not with the same emphasis. Special education teachers need to widen the knowledge regarding different disabilities, and to get themselves acquainted with strategies and principles of educating children with different needs in school class. Regular teachers need to learn how to evoke group dynamic climate in order to nurture an learning environment with kindness and patience.

In-service training is also important for teacher's aid. Basically, teacher's aid usually was not required experiences of working with children with disabilities. In-service training was usually the first and only channel for improving their understanding and strategies in inclusion education.

Incorporated-subjects teaching

Garrahy (1994) proposed that physical education teachers can incorporate many subjects into the developmental movement program. These subjects may include language arts, math, social science, reading, health, science, music, and physical education. However, the question is do educators perceive physical education as a

part of the whole experience or apart from the whole experience?

In Taiwan, the kindergarten curriculum standard, which was declared by the Ministry of Education, indicated that there were subjects in six areas composing the kindergarten curriculum. These six areas include language arts, mathematics / science / social studies, visual arts / physical labor, music, health, and play. In a unit teaching activity design, subjects in different areas should be incorporated instead of divided. However, divided-subjects teaching practices were proceeded in many kindergartens because of the misunderstanding of the nature of learning in early childhood. This study indicated that these six subject areas could be naturally incorporated with this PE program.

The emphasis of this study was focused on revealing the effects of this proposed PE program on improving the movement-related performance and learning behaviors in a diverse group. Therefore, these proposed PE activities did not intend to join with original plans of unit teaching activity design of this class. In future studies, proposed PE activities should be included into plans of unit teaching activity design. By doing this, the experiment circumstances will be more close to the natural teaching ones.

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